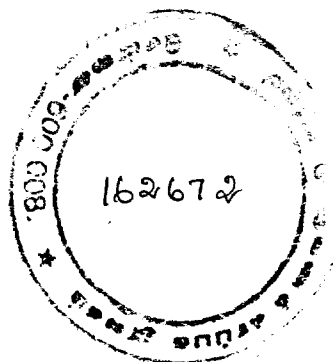


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MAGNETISM AND ELECTRICITY.

(A Detailed Syllabus.)

MAGNETISM.

NATURAL AND ARTIFICIAL MAGNETS.

LODESTONE—composition—where found.

Leading stone not loadstone. Attractive polarity, directive polarity. Magnetisation of iron by a lodestone (Gregory and Simmons, sec. 70). Like and unlike magnetic poles. *Laws of magnetic polarity*—Repulsion a surer test. (Gregory and Simmons, sec. 71)—Magnetic substances.

Attraction of nickel and cobalt; non-magnetic substances. Magnetisation by means of an artificial magnet. Magnetisation of steel by single touch, double touch, divided touch.

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(Exp. 149, 150, 151, Watson; Gregory and Simmons, sec. 71a, 72). Magnetisation by an electric current (Exp. 9, Steel). Consequent poles.

PROBLEMS.

Devise an experiment to show that a piece of iron attracts a magnet just as truly as the magnet attracts the iron—You are supplied with a steel bar, but with nothing else containing iron. How can you test if the bar is magnetized, and how from your observations can you conclude that, if it is magnetized, its ends possess different magnetic properties?—How could you discover whether a steel ring was magnetized or not?—If in magnetizing a watch-spring by the method of separate touch, the two like poles of the magnets, instead of unlike, were placed together at the middle of the spring before rubbing, what difference would it make? Verify your result experimentally.—How would you determine experimentally whether a magnet has consequent poles or no? In what direction would such a magnet place itself, if placed on a wooden board floating freely in water?

MAGNETIC INDUCTION.

Induced magnetism in iron and steel. Poles of an induced magnet. (Gregory and Simmons, sec. 77a, b, c; Steel, Exp. 10; Watson, Ex. 159, 160). Induced polarity

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temporary in the case of soft iron. Secondary induction (Gregory and Simmons, 77d.) Magnetic chain (Gregory and Simmons, 77e; Steel, Ex. 11). Induction precedes attraction. Repulsion between like induced poles. Induction in a magnet. *Reversal of magnetism by induction* (Steel, Ex. 12). Susceptibility of soft iron greater than that of hard steel (Gregory and Hadley, Exp. 235). Residual magnetism. Retentivity. Coercive power.

PROBLEMS.

The N-Pole of a magnet is held near a point on the circumference of an iron ring. Show by a diagram the position of the induced magnetic poles.—You have similar rods, one of steel and the other of soft iron; you have also a bar magnet and some iron nails. Describe exactly some experiment which would enable you to distinguish the steel rod from the iron rod.—A bar magnet is laid on a table with its north end projecting over the edge. A soft iron ball clings to the underside of the projecting end. State and explain what happens when the south pole of a second magnet is brought above and near to the north pole of the first?—Two similar rods of very soft iron have each of them a long thread fastened to one end, by which they hang vertically side by side. On bringing near the iron rods from below, one pole of a strong bar magnet, the rods separate from each other. Explain this.—If a compass needle be deflected when a steel bar is brought near it, how can you find out whether the deflection is due to magnetism already possessed by the bar, or to the bar becoming magnetised by the compass needle at the time of experiment?—Several bar magnets are placed on a table. How would you use a card and iron filings to determine how to place a nail lying hori-

zontally on the table with its centre at a given point, so that it may acquire (1) the largest, (2) the smallest possible amount of magnetism by induction?—A compass-needle and a straight strip of soft iron of the same length as the compass-needle are fastened together so as to be in contact with each other at both ends. Will the force which tends to make the combination point north and south be the same as that which would act on the compass-needle alone? Give reasons for your answer.

MAGNETIC MEASUREMENTS.

The unit of magnetic pole-strength. Construction of a Magnetometer (Gregory and Simmons, sec. 82) **Comparison of the magnetic moments of two magnets* by the deflexion method, (Watson, Ex. 158; Gregory and Simmons, sec. 83 b.) Application of the principle of moments to a magnetic experiment. Deflecting force proportional to the tangent of the angle of deflection produced. **Comparison of magnetic moments* (Exp. 38, Steel; Gregory and Simmons, sec. 83). To prove the law of inverse squares (Exp. 39, Steel). *Distribution of magnetism in a bar magnet* (Gregory and Simmons, sec. 85). Graphical method of determining the magnetic forces due to a bar-magnet (Exp. 28, 29, Steel). Experiments 40—44, Steel: too high!

LINES OF FORCE, MAGNETIC FIELDS.

A field of magnetic force. Resultant magnetic force. Resultant magnetic fields. Properties of lines of force: positive and negative direction. Analysis of lines of force (Fig. 546, Narasu's Physics; Exp. 242, Gregory and Hadley). Maps of magnetic fields—Compass needle method. *Iron filings maps*: (a) One bar-magnet. (b) two bar-magnets side by side, with unlike poles together, (c) two bar-magnets with like poles together, (d) two bar-magnets

with their axes in line, and unlike poles together, (e) two bar magnets with their axes in line, and like poles together, (f) one horse-shoe magnet without keeper, (g) one cylindrical magnet fixed in a vertical position, and the paper supported horizontally over the upper pole, (h) the lines of force in or near a magnetised ring (i) wire conveying current. (Expts. 17 to 22, Steel; Crew and Tatnall, Ex. 66; Gregory and Simmons, sec. 78; Watson, Ex. 148 and 149). Symmetry of the magnetic field due to a single bar-magnet. To illustrate the magnetic permeability of iron (Steel, Exp. 23). Magnetic screens, the screening effect of an iron shell. Lines of force in the case of induction (Steel, Ex. 25). Use of keepers (Steel, Ex. 25).

THEORY OF MAGNETISATION.

Effect of breaking a magnet (Gregory and Simmons, sec. 76a; Ex. 153, Watson; Exp. 27, Steel). *Steel filing magnet* (Gregory and Simmons, sec. 76b) Weber's theory. Effects of rough usage, distortion, heating. Lamellar magnet. Magnetic Magazine.

PROBLEMS.

Explain how jarring a bar of steel will aid in magnetizing it, but jarring a magnetised piece of steel will weaken its magnetism.—If iron be heated and then cooled in a magnetic field, it will be found to be magnetised. Explain.—You have three equal bar-magnets without keepers. How would you arrange them, so that, when not in use, they might preserve their magnetism? Give a sketch.—Show by a drawing how the lines of force would run in the case of two equal bar-magnets placed across one another in the form of a Greek cross—Make a drawing to show how the lines of force would pass in the case of two bar-magnets arranged

with their keepers on, but like poles together instead of unlike, and separated by a piece of wood one inch broad.—Explain why iron filings set with their long axes in the direction of lines of force in the magnetic field.—Make a drawing to show how the lines of force at the north end of a bar-magnet will be altered if a solid ball of soft iron be placed close to that end.—A piece of steel so as to form two sides of a square is magnetised so that the bend is a south pole and the two ends north poles. Make a drawing to show the lines of force in its field.—A compass needle is deflected 15 degrees from the meridian when a bar-magnet is placed on the table some distance away. Will the deflection be altered if the poles of the magnet are connected by a bent iron rod? Give reasons.

THE EARTH AS A MAGNET.

Characteristic behaviour of a compass needle. Comparison of same when carried from S to N with behaviour when a magnetised sewing needle is passed over a bar-magnet gradually from pole to pole.

Magnetisation by means of the earth's field (Crew and Tatnall, Exp. 65c, d; Ex. 161, Watson; Gregory and Simmons, sec. 81; Steel, Ex. 34) Determination of the geographical meridian (Gregory and Simmons, sec. 75 a; Gregory and Hadley, Exp. 249). *Magnetic axis of a magnetised steel disc and determination of the magnetic meridian* (Watson, Ex. 154, 155, 156; Gregory and Simmons, sec. 73, 74). Declination (Gregory and Simmons, sec. 75; Steel, Ex. 30). Dip. *Measurement of dip*. (Ex. 157, Watson; Steel, Ex. 31, 35; Gregory and Simmons, sec. 79 and 80). For construction of a dip needle see Gregory and Simmons, sec. 79b. Angle of magnetic dip in various localities. Magnetic

equator. Directive action of the earth's field. Contrast with that of a bar-magnet (Ex. 26, Steel). Simple hypothesis of terrestrial magnetism. Magnetic poles. The earth's magnetic field. Action of the earth's magnetism on lines of force of a magnet. Steel, Ex. 32, 33; Crew, Ex. 65 a). Mariner's compass. Cardani's suspension. To make an astatic needle (Ex. 36, Steel). Comparison of the horizontal components of the total magnetic force in any two places. (Gregory and Simmons, sec. 84; Ex. 37, Steel).

PROBLEMS.

Account for the fact that a surveyor's compass needle is often provided with a small adjustable weight for balancing.—Ascertain by experiment whether a floating magnet tends to drift towards the north. Account for the result.—The beam of a balance is made of soft iron. When it is placed at right angles to the magnetic meridian, two equal weights placed in the opposite pans just balance. Will the weights still appear to be equal when the balance is turned so that the beam swings in the magnetic meridian? Give reasons for your answer.—Two equal bars of steel, after having been magnetised equally, are kept for some years in a vertical position, one (a) with its S—Seeking pole upwards, the other (b) with its N—Seeking pole upwards. The bars are so far apart that they do not act on each other; which of the two would keep its magnetism best; and why?—Given a dipping needle only, how could the magnetic meridian be found?—What effect (if any) is produced, (a) on the position of the centre of gravity, (b) upon the weight of a bar of steel by magnetising it? Give reasons.—A steel vessel is built on the slips

so as to lie east and west. What would you expect her action to be on a compass needle placed in the bows? Give reasons.—A tall iron mast is situated a little in front of the compass in a wooden ship. Explain the nature of the compass error when the ship is sailing in an easterly direction (1) in the northern (2) in the southern hemisphere.—What is meant by the statement that the declination at a place is 80° west? At such a place, how must a boat be steered so that its course may be due east?—Give a neat sketch showing how the lines of the earth's magnetic field in a laboratory would be distorted if the ceiling were supported on iron pillars.—A bar of soft iron is held vertically over the centre of a dip-needle, but not near enough to have magnetism induced in it by the needle. Is the dip increased or diminished by the presence of the bar, and would the result be the same in each of the two hemispheres?

LIST OF PRACTICAL EXERCISES.

Qualitative and Quantitative.

- (1) Laws of magnetic polarity.
- (2) Magnetisation of steel by single touch, double touch, and divided touch.
- (3) Poles of an induced magnet.
- (4) Reversal of magnetism by induction.
- (5) Susceptibility of soft iron greater than that of steel.
- *(6) Comparison of the magnetic moments of two magnets by the deflexion method.
- (7) Distribution of magnetism in a bar magnet.
- (8) Iron filing maps.
- (9) Effect of breaking a magnet.
- (10) A steel filing magnet.
- (11) Magnetisation by means of the earth's field.

(11a) Action of the earth's magnetism on lines of force of a magnet.

*(12) Magnetic axis of a magnetised steel disc and determination of the magnetic meridian.

(13) Measurement of dip.

*(14) Comparison of the horizontal components of the total magnetic force in any two places.

On the supposition that about 30 periods of 50 minutes each are available for the study of magnetism, eight double periods may be set apart for practical work, the remaining 14 periods being devoted to teaching and questioning.

VOLTAIC ELECTRICITY.

Production of a current: Voltaic cells. The affinity for oxygen of copper, zinc, platinum demonstrated. The action of sulphuric acid dilute and concentrated, hot and cold, on zinc, copper, platinum (Ex. 45, Steel). Voltaic couple, pile, cell (Ex. 46, Steel; Ex. 73, Crew and Tatnall, Ex. 183, Watson). Detection of electric current. Local action, how caused, pure zinc in acid, amalgamation (sec. 98 f, Gregory and Simmons). The action of sulphuric acid on zinc, difference in action when copper turnings, iron filings, finely divided charcoal is dropped: *hydrogen liberated at the copper* (sec. 98d, Gregory and Simmons). The consumption of zinc the source of energy (sec. 98e, Gregory and Simmons; Exp. 47, Steel). Difference in potential, hydrostatic analogy, Electro-motive force. Polarisation: how caused, increased resistance, counter-current. Mechanical means of removing polarisation. Chemical means. A typical chemical method of reducing polarisation:—Place enough mercury in a quart jar to cover the bottom, and hang above it a piece of sheet

zinc. Fill the jar with a nearly saturated solution of salt water and place in the mercury the exposed end of a copper wire insulated with guttapercha, the upper end forming the positive pole of the battery.

If now the circuit is closed through a telegraph sounder of ten or fifteen ohms resistance, the armature will at first be attracted strongly but in the course of ten minutes it will be released and will be drawn back by the spring. Polarisation has thus set in to the extent that the current is insufficient to operate the instrument.

Next take a piece of mercuric chloride no larger than the head of a pin, and drop it on the surface of mercury. The armature of the sounder will be drawn down, showing that the current has recovered its natural value. The hydrogen has been removed by the chlorine of the mercuric chloride. In a few minutes the chlorine will be exhausted, and polarisation will again set in. A little more of the chloride will again restore the activity of the cell. An ordinary electric bell may be substituted for the sounder.

The Bichromate cell. The Leclanche cell. Dry cells. The Daniell cell: Electro-chemical method. Bunsen's and Grove's cells. *A convenient cell for use in the laboratory*; for details see sec. 100c, Gregory and Simmons. Cells in series and in parallel. The commutator.

PROBLEMS.

Why is a Daniell cell better than a Bichromate cell for telegraphic purposes?—Why is a Leclanchè better than a Daniell cell for ringing door bells?—Would you expect to get an E. M. F. by forming a cell of two copper plates or two zinc plates in dilute sulphuric acid? Make the experiment, using

a sensitive galvanometer. Try the experiment with a polarised copper plate and one that is not polarised and account for the results.—Would you expect to derive a current from a zinc and a copper cell containing solution of common salt? Perform the experiment.—Study the description of the Daniell cell and state which solution grows weaker and must ultimately be renewed. What materials, therefore, must be kept on hand for replenishing a system of Daniell or Gravity cells?

MAGNETIC EFFECTS OF AN ELECTRIC CURRENT.

Oersted's experiment. *Action of the electric current on a magnetic needle* (sec. 101, Gregory and Simmons; Ex. 184, Watson; Ex. 49, Steel; Ex. 72, Crew and Tatnall). Ampere's rule. Thumb rule. Galvanoscope. The single needle telegraph. (Commutator). Reasons for expecting a magnetic field distributed symmetrically round the wire.

Lines of force due to a current (sec. 102b, Gregory and Simmons; Ex. 185, Watson). Directions of current and compass needle. (Ex. 50, Steel) *Rotation of a magnetic pole round a wire conveying a current (Ex. 301, Gregory and Hadley). Magnetic field due to a current in a circular wire. De la Rive's floating battery: action of the pole of a bar-magnet on the coil.

Magnetic properties of a spiral carrying a current. Solenoids (sec. 103b, Gregory and Simmons, Ex. 187, 188, Watson; Ex. 80, Crew and Tatnall). Neutral action between a circular current and a magnetic pole (sec. 103d, Gregory and Simmons). Electro-magnets. Effect of iron within coil conveying a current (sec. 99c, Gregory and Simmons). Electric bell. Morse system. *Relay.

*Action of magnets on currents:—Behaviour of a linear current in a magnetic field.

*Rotation of a current in a magnetic field (sec. 105, Gregory and Simmons; Ex. 306, Gregory and Hadley) *Attraction and repulsion between wires carrying currents. (Ex. 85, Steel; sec. 104a, Gregory and Simmons). *To show by Roget's vibrating spiral that parallel currents attract. (Ex. 86, Steel; sec. 104b, Gregory and Simmons). Magnetic fields around parallel conductors; (1) when currents are flowing in opposite directions, (2) when flowing in the same direction.

PROBLEMS.

Would you expect a compass needle to point North and South in a moving trolley car? why?—A helix is suspended so as to turn freely in a horizontal plane and is placed above a strong bar-magnet. If a current be sent through the helix, what will be its direction around that end which stops over the S.-pole of the magnet?—A wire lies east and west (magnetic) immediately over a compass needle. How is the direction in which the needle points affected when a strong current flows through the wire (1) from west to east (2) from east to west?—Wires from two separate voltaic batteries are stretched one above the other from north to south (magnetic) and equal currents pass through both wires. If a magnetic needle, free to turn horizontally but not vertically, is hung half-way between the wires, how will it be affected (a) if the currents are both in the same direction? (b) if the currents are in opposite directions?—Two compass needles are arranged near each other so that both point in the same straight line. A wire connecting the platinum and zinc ends of a battery is stretched vertically half-way between the needles. How will the current in the wire affect the needles and how will the result depend upon whether the platinum

terminal is connected with the upper or lower end of the wire respectively?—A long piece of insulated copper wire is doubled at its middle point M, so that the two halves lie side by side. It is then wound round an unmagnetised iron bar A B, M being at the end A. The two, loose ends of the wire are joined to the poles of a battery (one end to each pole). How would you test the magnetic state of the bar, and what result would you arrive at?—A weak electric current passes through a horizontal wire which stretches east and west under the centre of a horizontally suspended magnetic needle. As the wire is turned so that its easterly end moves more to the north and its westerly end more to the south, the needle moves to meet it. In what direction is the current flowing?—A piece of copper wire is wrapped spirally round a ruler from end to end, and the ruler is hung horizontally so that it can turn about its centre while a current is passing through the wire. How can you tell by using a bar-magnet, in which direction the current is passing?—What happens to a fixed bar of soft iron if the current from the platinum pole of the battery passes above it and at right angles to it?—A long straight wire is stretched on a table in the direction of the magnetic meridian, and a dip circle, with its plane parallel to the magnetic meridian, is placed on the table near to the wire, and on the west side of it. Will the dip of the needle be altered when an electric current is passed along the wire from south to north, and if so, how? Give reasons—A straight horizontal wire is placed near and parallel to a compass needle, and in the same horizontal plane with it. If a current is then passed through the wire, what effect is produced on the needle, and what occurs if the wire is

(1) slightly raised, (2) slightly lowered?—A small compass needle is suspended at the centre of a vertical copper ring through which a current is passed. How is the needle affected by the current (1) when the ring is in the magnetic meridian, and (2) when it is at right angles to the magnetic meridian? What are the forces acting on the needle in each case?—An electric current is flowing along a wire. You are given a pointed compass needle, and are required to find out by its aid which way the current is flowing. How would you proceed (a) if the wire in question lies horizontally; (b) if the wire runs vertically; (c) if the wire is coiled up in a circular coil or open hank.

GALVANOSCOPES, GALVANOMETERS, UNIT OF CURRENT.

Detection and measurement of current: Galvanoscope, Galvanometer. Construction of a simple Galvanoscope (sec. 106, Gregory and Simmons). The principle of a galvanometer: evaluation of the formula connecting F , H and the tangent of the angle of deflection. The sensibility of a galvanometer: methods of increasing and decreasing the same. The astatic galvanometer, the mirror galvanometer, (Ex. 55 Steel); (d) Arsonval's, Galvanometer (Crew and Tatnall, Ex. 71); relative advantages of each of these. The Tangent Galvanometer (Ex. 54, Steel; Ex. 184, Watson)—its construction and principle: formula for finding the value of C . Reduction factor, galvanometer constant, absolute unit of current, practical unit. *Comparison of current strengths by means of the Tangent Galvanometer.*

PROBLEMS.

What is the constant of a galvanometer

in which there are 10 turns of wire wound in a circle of a radius 15 cm., if π be taken as 3.1416?—What is the force at the centre of the coil of a galvanometer if $H = 0.18$ and the deflection of the needle 20° ?—Find the current that flows round the galvanometer in question when $H = 0.18$ unit, and the deflection is 30° —If a current of 20 amperes produces in a certain Tangent Galvanometer a deflection of 25° : what will be the value of the current if the deflection is 40° ?—Why should the coil of a Tangent Galvanometer be placed in the magnetic meridian?—Explain fully why the deflection of the needle of a tangent galvanometer is independent of the pole-strength of the needle.

Describe some simple method of increasing the sensibility of (1) an astatic galvanometer, (2) a mirror galvanometer.—A current flows through two tangent galvanometers in series, each of which consists of a simple ring of copper, the radius of one ring being three times that of the other. In which of the galvanometers will the deflection of the needle be greater? If the greater deflection be 60° , what will the smaller be?—Of how many turns must the coil of a tangent galvanometer consist if the radius of the coil is 15 cm., and if a current of 0.01 ampere is to produce a deflection of 30° ? $H = 0.36$?—The coil of a given tangent galvanometer can be rotated about a vertical axis while the scale upon which the deflection of the needle is read, remains fixed. Describe and explain in detail how the deflection of the needle will alter (the current through the coil remaining constant) when the coil is turned continuously through 360° from its original position in the meridian,

ELECTRO-MOTIVE FORCE, RESISTANCE, OHM'S LAW.

Electrical resistance, variation of deflection of galvanometer when the current is passing through wires of various diameters, materials, and lengths. (Exp. 190, Watson; sec. 109a, Gregory and Simmons). Internal resistance of a cell (sec. 109e, Gregory and Simmons). Passage of current through mercury and turpentine. Potential or E. M. F. Hydrostatic analogy. *Fall of potential along a wire conveying a current* (Ex. 81, Crew and Tatnall; Ex. 192, Watson; sec. 109, Gregory and Simmons). Graphical representation of the relation between electric pressure and length of wire. *Fall of potential from one point to another along a wire conveying a constant current and a study of how the pressure varies with the cross section and the material of which the wire is made.* (Ex. 193-4, Watson; Ex. 82, Crew and Tatnall). To find if the electro-motive force of a cell varies in use (Ex. 62, Steel). Variation of resistance of cells (Ex. 63, Steel; Ex. 191, Watson; sec. 109e, Gregory and Simmons). The E.M.F. of different kinds of cells (Ex. 64, Steel). *To find when resistance is constant, how current varies with E.M.F.* (Ex. 65, Steel; sec. 111c, Gregory and Simmons). *To find when the E.M.F. is constant, how current varies with resistance* (Ex. 66, Steel; sec. 111a, b, Gregory and Simmons). Ohm's law. Practical and fundamental units. Arrangement of cells in series and in parallel (Ex. 67, Steel).^{*} Arrangement of cells for maximum current.

PROBLEMS.

A Daniell cell gives a deflection of 20° , part of the liquid is then poured out, and the deflection is then 10° . Compare the resistance of the cell in each case neglecting external

resistance.—Why must a galvanometer which is to be used for measuring voltages have a high resistance?—Why is it desirable that a galvanometer which is to be used for measuring currents have as small a resistance as possible?—How can it be shown that a voltaic battery is not a constant battery? If a Daniell and a Grove were made to send a current through a long thin coil, which would give the stronger current and why?—A single cell is connected to a galvanometer by long fine wires, giving a deflection of 10° . If a second similar cell is connected in parallel with the first, the deflection becomes 11, but if connected in series, the deflection is increased to 19° . Explain this.—If a galvanometer gives the same deflection when connected with a very small cell as it does when connected with one several times as large but having the same E. M. F., is the resistance of the instrument large or small?—Which will produce the greater effect in an external circuit of 5 ohms, a dry cell whose resistance is 3 ohms, or a copper oxide cell (E. M. F. = 0.8 volt) having a resistance of 0.2 ohms?—A circuit contains 4 dry cells (E. M. F. of each = 1.5 volts) joined in series. Three of the cells are known to have a resistance of 0.5 ohm each, and the external resistance is 10 ohms. If the current is 0.15 ampere, what is the resistance offered by the fourth cell? Would the current be increased or decreased by removing this cell from the circuit?

WHEATSTONE'S BRIDGE.

Comparison of resistances. Wheatstone's net (Ex. 195, Watson; sec. 109c, Gregory and Simmons; Ex. 68, Steel). Wheatstone's bridge. *Comparison of resistance of wires* (Ex. 196, Watson; Ex. 83, Crew and Tatnall;

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sec. 112a, Gregory and Simmons; (Ex. 69, Steel). *Construction of a 1 ohm coil* (Gregory and Hadley, Ex. 314). Variation of resistance of wire with length (Ex. 70, Steel; sec. 112b, Gregory and Simmons). Variation of resistance of wire with sectional area (Ex. 197, Watson; sec. 112c, Gregory and Simmons; Ex. 71, Steel). Variation of resistance with material other things being equal (Ex. 72, Steel). Alloys. ^{*}Specific resistance of wires (sec. 113, Gregory and Simmons; Ex. 198, Watson). ^{*}Effect of an increase of temperature on the resistance of a wire (Ex. 192, Watson; Exp. 76 Steel).^{*} Resistance of two conductors in parallel (Exp. 200, Watson; Exp. 73, Steel). *To find the resistance of a galvanometer best if not over five or six ohms resistance: Thompson's method* (Exp. 75, Steel).^{*} *Resistance of a cell by use of the Metre Bridge called Mance's method* (Exp. 78, Steel).^{*} *To compare the E. M. F. of a Bichromate or other cell with that of a Daniell by Wiedemann's sum and difference method.* (Exp. 80, Steel).^{*} Comparison of the Electro-motive forces of two cells by potentiometer (Exp. 82, Steel).

PROBLEMS.

A current of 4 amperes divides and passes through two parallel coils of wire, one of 5 ohms and the other of 8 ohms resistance; what is the current that goes through each branch?—Four wires, A B, B C, C D, and D A, are arranged so as to form a rectangle, and their resistances are 1, 2, 3, and 4 ohms respectively. The opposite corners A and C are then connected to a voltaic cell of E.M.F. 2 volts. If, as the result, the difference of potential between A and C is 1.4 volts, determine the difference of potential between B and D. Show that if B and D were

connected by a thick copper wire of no appreciable resistance, the current in A B would be four times that in A D.—A wire has a resistance of 15 ohms; it is then drawn until its diameter is halved; determine to what extent the resistance is altered by the alteration in shape. Two cells in series give a deflection of 10° ; Compare their E. M. F's.

CHEMICAL EFFECTS OF THE ELECTRIC CURRENT.

Electrolysis of water: the action on acidulated water compared with that on distilled water. *Electrodes, Electrolyte, Anode, Cathode.* Electrolysis of copper sulphate, difference in the action (1) when copper electrodes are substituted for the cathode (Exp. 77c, d, Crew and Tatnall) Electrolysis of Potassium Iodide, Sodium Chloride, Lead Acetate (Ex. 78, Crew and Tatnall). Electrolysis of Hydrochloric acid: necessity for using carbon electrodes: Electroplating. Refining metals: copper, gold, aluminium. Electro-metallurgy. Manufacture of caustic soda.* Faraday's laws of electrolysis.* Electro-chemical equivalent. Definition of Ampere.

PROBLEMS.

Plates of copper and platinum are dipped into a solution of copper sulphate, and a current is passed through the cell from copper to the platinum. Describe the effects produced; also what happens when the current is reversed.—A current is passed through acidulated water contained in a vessel, and the gases liberated are collected in two test tubes A and B, hydrogen in A, and oxygen in B. After a time the pole wires are exchanged, so that the current goes through the water in the other direction and the oxygen is now collected in A and hydrogen in B. At the end of the experiment it is found that the total volume of the

gases collected in A is $\frac{3}{4}$ of the total volume of the gases in B. Show that the volume of hydrogen in A is $\frac{2}{3}$ of the volume of hydrogen in B.—An electric current (which is the same in all parts of the trough, flows horizontally in a trough filled with copper sulphate. A rod of copper is then supported horizontally in the trough, with its length parallel to the direction in which the current is flowing. How will the rod be affected by the current?—You have access to the terminal wires made of copper of a hidden battery. Explain how you would tell which wire was connected with the zinc, and which with the platinum pole of the battery, by observing what happens when the ends of the wires are dipped at the same time into a solution of copper sulphate.—A piece of zinc and a piece of copper are each carefully weighed. They are then connected by a copper wire, and dipped side by side into dilute sulphuric acid contained in an earthenware jar. After, say, half an hour the pieces of zinc and copper are taken out, and dried and weighed again. Would the weights be the same as at first? If not, how, and why, would they differ?—The current from a voltaic battery is passed at the same time through a thin wire and through dilute sulphuric acid connected in series. What will happen to the wire, and to the dilute acid; and what change, (if any), will be produced in each case, by reversing the battery connections so as to alter the direction of the current through the wire and the liquid?—Plates of copper and platinum are dipped into a solution of copper sulphate. What effects are produced upon them if a current is passed through the liquid from copper to platinum?—

HEATING EFFECTS OF THE ELECTRIC CURRENT.

Observe change in the deflection of a galva-

nometer by substituting for one of the wires (1) a very thin iron wire, (2) a thick iron wire. Note the difference in the two cases. Make a helix of iron wire, introduce the bulb of a thermometer into the helix and notice the change of temperature. Repeat the experiments with a piece of bare copper wire of the same length and thickness (Exp. 79b, Crew and Tatnall). Elongation produced in a piece of copper wire by the passage of an electric current demonstrated (Fig. 602, Narasu's Physics). Expansion of a gas by the heat generated (Fig. 603, Narasu's Physics). Comparison of a thin long wire with a thick short one, and of wires of different materials. Importance of copper as a conductor. Effect of change of direction of current.

Practical applications.—Blasting of rocks, Cauterisation, Incandescent lamps, Safety fuses, Electric welding, Electric arc, Electric flat-irons.

PROBLEMS.

The ends of one of the pole wires of a battery is connected to a file and the other end of the pole-wire is drawn to and fro over the rough part of the file. Copious sparks are produced. Explain.—A current flows through a copper wire, which is thicker at one end than at the other. If there is any difference either (1) in the strength of the current, or (2) in the temperature of the two ends of the wire, state how they differ from each other, and why?—How could you boil water by means of the current from a voltaic battery? Give a sketch to explain the arrangement of apparatus you would use.—An electric current is passed through a wire coiled into a spiral. The spiral is placed with its axis vertical and it is found that a current of air passes up

through the tube formed by the spiral. Explain this.—An electric current is passed through platinum wire and a copper wire of the same size, arranged in series. If the strength of the current is gradually sufficiently increased, the platinum becomes red-hot while the copper remains dark. Explain this.—Two wires of the same size and length, one of copper and the other of iron, are joined in series and connected to the poles of a battery. In this case the iron wire becomes hotter than the copper. The two wires are then connected in parallel to the same battery, and the copper is observed to become hotter than the iron. Explain these observations.—A current is sent through a piece of fine wire by a voltaic cell, the resistance of which is very small compared with that of the wire. How will the heat produced be altered if the length of the wire is halved?—The plates of a cell, the resistance of which is inappreciable, are connected by a platinum wire. How would the rate of development of heat in the wire and the rate of consumption of zinc in the cell, be affected if the wire were drawn out uniformly to double its length?

*ELECTRO-MAGNETIC INDUCTION.

Faraday's initial experiment on induced currents: inverse induced currents; direct induced current (Exp. 87, Steel; Exp. 75, Crew and Tatnall; Exp. 332, Gregory and Hadley). Study the effect of (1) inserting an iron core in the primary coil (2) of changing the strength of the current by including an adjustable resistance in the primary circuit. Principle of the induction coil: Exp. 88, Steel). *Investigation of the laws of magneto-electric induction* (Exp. 89, Steel; Ex. 74, Crew and Tatnall). Effect of bringing the North pole towards the secondary

coil. Effect of moving a wire to cut lines of magnetic force (Ex. 74 *f, g, h*, Crew and Tatnall), (Examination of a dynamo). Bell's telephone. Principle of telephone, (Exp. 333, Gregory and Hadley). Examination of a modern transmitter and receiver.

PROBLEMS.

One pole of a strong bar magnet is put through a copper ring and quickly taken out again. This is done repeatedly and quickly. Although the magnet and ring are not allowed to rub against each other, the ring becomes slightly heated. Why is this?—How could you temporarily stop or weaken the current in a wire, without disconnecting it from the battery, by means of the motion of another wire through which a current is passing?—A bar-magnet is allowed to drop vertically through a hank of insulated copper wire placed horizontally. What electric effects, if any, are produced in the wires?—Describe experiments to prove that the current produced by moving a magnet tends to stop the motion, and that the motion produced by the magnetic action of a current tends to stop the action.

LIST OF PRACTICAL EXERCISES.

- (1) To construct an electromotive series.
- (2) Local Action and Amalgamation.
- (3) Mechanical, Chemical, and Electro-chemical means of removing polarisation.
- (4) Action of an electric current on a magnetic needle.
- (5) Lines of force due to a current.
- (6) Magnetic properties of a spiral carrying a current.
- * (7) Attraction and repulsion between wires carrying currents.
- (8) Comparison of current strengths by means of the tangent galvanometer.

(9) Fall of potential along a wire carrying a current.

(10) To find how, when resistance is constant, current varies with E. M. F.

(11) To find when E. M. F. is constant, current varies with resistance.

(12) Comparison of resistance of wires.

(13) Construction of a 1 ohms coil.

* (14) To find the resistance of a galvanometer (Thompson's method).

(15) To find the resistance of a cell (Mance's method)

* (16) To compare the E. M. F.'s of cells by Wiedemann's method.

(17) Electrolysis of water, copper sulphate solution.

(18) Heating effects of current.

* (19) To investigate the laws of magneto-electric induction.

On the supposition that about 50 periods of 50' each are available for the study of electricity 14 double periods may be set apart for practical work both qualitative and quantitative and the remaining 22 periods devoted to lecture, demonstration and questioning.

K. S. PARABRAHMAM.

SOME HINTS ON PRACTICAL CHEMISTRY IN OUR SCHOOLS.

PRACTICAL work, in Chemical Laboratory is still in a very backward condition in most of our schools and colleges. Leaving aside a few colleges in the metropolis, it can be said that almost all the institutions in the mofussil, lack behind either in equipment or in not imparting the required standard of knowledge to the students, to make them work with interest. In the recent reforms, our University aims at specialization even at the

Secondary School. In some schools, this begins in the IVth Form and in most of them in the Vth Form. Apart from considering whether the students can understand their position, and make the choice to their full benefit or not, they who come up to the Intermediate classes are far behind the average of the old Matriculation standard. The subjects in Group B of the School Final Course, are taught in a very clumsy way in most of the schools, since neither the students nor the masters are careful in improving in those subjects. As a result, the students now in the Intermediate classes do not possess a store of world-wide information about various points, which is most essential for the making of the future citizens. For instance, they do not know, whom the Provincial Executive Council consists of or its functions. The other day, I was talking in the class about the Asphalt Lake in one of the islands of the West Indies, which no student in the Intermediate Senior class, was able to understand and tell me the name of the particular island or the uses of Asphalt.

The new Regulations, in giving prominence to the few talented to progress well in certain subjects to which they have a special aptitude, make the mass of the students completely ignorant of most common ordinary things about us. A man of the world requires something of everything. This defect in the present system is, I think, rather due to the inattention paid in the schools than to the Regulations.

Another serious defect in our schools is that they do not possess the necessary equipment for some of the subjects of the Group C. The number of students who take up the Physical or Natural Sciences as their optional

(Group C) in the School Final, and Groups I or II in the Intermediate classes, are very few. If the History class is 100 strong, we find only 25 or 30 in the Science classes. Let us look at the expenditure that has to be incurred. With some initial expenditure for the Library and with a few teachers, the managers of the institutions are able to cope with the History work. But, even though the strength in the Science classes is comparatively small, more money has to be spent every year on the Laboratory, and specialists, who number few, have to be employed. In spite of the large amount of money distributed by our benevolent Government as teaching grants, library grants, laboratory outfit grants, etc., the managers complain the insufficiency of their purse as a reason for not furnishing the laboratory well.

In Chemistry, Practical work must begin along with the theory. Students may be able to get up by heart a good many pages of a book, but they are sure to lack behind in application. So this should be the chief rule, that they must also progress well in theory as well as in practice. They must be trained in thoughtful habits of study. In some experiments, one would not know what precautions he has to take to ensure him success in the experiment, unless he happens to perform the experiment himself and finds the various difficulties which he has to overcome. For instance one of my students of the second year University class, when he was preparing Nitric Acid from Sodium Nitrate and Strong Sulphuric Acid, did not know how to heat a glass retort. He went on simply applying heat at a particular point, the result being the retort cracked and the contents poured over all the people near him,

Had he known how to beat, I am sure this accident would never have happened. I can quote a number of such accidents due to the ignorance of the students in practical knowledge. To avoid such accidents it is better to train the students in practical work in the lower classes, where they can devote more time to things of this sort. There is no use of telling them any number of times what precautions they are to take. If they are made to set up the apparatus themselves and do experiments themselves, each to himself, then I am sure, that even though they may break some apparatus and fail in the experiments, still they will learn much by experience and they will rise to the occasion and meet the difficulties.

One ought to know how to handle a thing before he can perform experiments. Most of us, can very well criticise a player in any of the games, but how far we can ourselves play is another question. Almost all of the spectators who pass cutting remarks, will thoroughly fail if they are placed in the position of their victim. Similarly no amount of theory would do. The teacher must always be careful to succeed in the experiments which he does before the students. He must be very careful in handling the apparatus. He should try his best not to commit any such mistakes. I am afraid that this rule will be a very hard one on the masters to observe, since most of them are just training themselves to perform experiments and they had not such lessons in their student life. But any how they must set a good example to the young minds to follow.

The first thing that must be impressed in the minds of the youngsters is that they should always be neat and scrupulously

clean. The apparatus too must be clean. The master will set an example. They should be examined from time to time whether they obey these simple rules. Their dress should never be slovenly and loosely hanging about. If possible, they may be allowed to work with their coats off and the sleeves of the shirts folded up at the elbow.

Our students are always in the habit of sitting in the Practical class. This must be avoided. Unless they can stand and work continuously for 2 or 3 hours they should not be admitted into the Laboratory at all. The student is expected to be brisk and move all round very quickly. He must employ his whole attention in his experiment. He must always be ready to meet reverses and to overcome them. Whenever he gets a wrong answer or breaks the apparatus in the middle of an experiment, he will do well to record the same in the Practical Chemistry rough record book and then begin a fresh. The teacher whenever looking into the note-book will be able to tell him what mistakes he has committed and how he should rectify them. Meanwhile, he must also try to understand his faults which he has unwittingly made through ignorance.

Usually, it is thought that practical work is only a matter of routine following blindly certain rules. The teacher will do well to drive off such an idea from the minds of the students and see that such an idea never enters their brain at all. As soon as a set of experiments are finished by them, a serious attempt is to be made by themselves to connect what they have learnt in the classroom with that they have observed in their experiments.

The teacher, will, if possible, direct each

MORAL EDUCATION.

IT is a truism that the object of education to bring out the best in man, to make him curb his lower nature to bring about a true spirit of compromise on the eve of difference, and thereby to adjust himself to the needs of the society and enabling by this give-and-take-policy to live in a state of amity. This amity between man and man, this concord in the social life of the individual is the true goal of education. It is not to make one parade in wealth of learning threatening his humble fellowman into inferiority, or exerting by the influence he may chance to possess, to bring about changes not suited to his intellectual inferiors. To make the home happy, to carry on the smooth working of the Government, in short to make a true citizen loved by the King and admired by the public, such should be the end to which education should befit a man.

Education as imparted at present has had supporters and nothing of dissatisfaction was pronounced, except the occasional grumblings of those interested few who were ever wedded to some sort of moral education. The lapse of time brought with it changes in the attitude of those responsible for the education of the youths entrusted to their care. To accentuate this feeling of responsibility certain things undesirable in the extreme have happened in this country. It is most lamentable and even shameful that some students in certain parts of the land were the participators in nasty and unholy acts. It is in Bengal especially that the activities of youths found vent in decidedly wrong directions and as the newspapers report the students were connected with dacoities of a very alarming kind. These and such like

J. R. SUBRAHMANYAM.

acts of the youths have set men responsible for the education of the country a thinking. They thought and it is no wonder that they arrived at the same conclusion that the education as obtaining at present is defective in the sense that it leaves the moral side of the students to take care of itself.

Hence we find the supporters of the existing system of education considerably thinned and the men of the opposite camp being reinforced by constant additions. Indeed this has gone to such an amazing extent that the very men who advocated a system of education entirely devoted to the cultivation of the intellect, have thrown in their lot with them. We find therefore a consensus of opinion that some sort of education, moral or religious, should go hand in hand along with the purely intellectual stimulus in order to reclaim the youths in whom the seeds of education not seldom put forth tares instead of the desired good crop of wheat. To save the youths from drifting in the current of anarchy and to bring them to the safe and comfortable moorings of law and order it has become a matter of absolute necessity to associate the youths in some sort of moral or religious discipline. The question that naturally suggests itself is what sort of a religious education or what kind of moral instruction.

At the outset there arises the necessity to make a sort of distinction between moral and religious education, I cannot say that religious education precludes moral instructions. Moral teachings are thoroughly cosmopolitan ready to find an acceptance even at the hands of confirmed atheists. Its merits, neither the difference of beliefs nor the barriers of sects will over-dare to question. Religious teach-

ings devoid of the cant encrusting the kernel of truth may be productive of the highest good. Which is cant, what is truth and whose authority is to be taken as unquestionable? In these matters there are endless differences and a babel of voices often shutting out the sane and well-thought opinion of individuals as absurd and ill-considered voice of an insignificant minority. If the religious teachings are accepted in the old and worn out methods of the Pandits, it would surely bring about the superiority of one caste to another thus hopelessly widening the gulf of difference between the several communities and sharpening the point of attack of one sect against another. This will so to speak defy the effects of the wholesome influence of a paternal Government to weld the people of India into one homogeneous nationality. It will produce undreamt-of evil effects which the advocates of cast-iron and rigorous religious education would not have foreseen. Thank God we are under one strong central Government which is a safeguard against all disintegrating influences. If one wants to aid the progress of the country the religious teaching consecrated by immemorial usage, is the last thing that one would think of advocating and any persistence to have even a semblance of the old method would certainly spread a baneful influence which even centuries of enlightenment and reform would find hopeless so eradicate.

Religious education if it is to be imparted at all it should conform to modern views based on the enlightened principles of the welfare of the humanity as a whole. Possibly a study of the comparative religions would benefit a great deal. In order to promote such a scheme, we want men with high

qualities of head and heart, men possessed with the knowledge of the various principles of the diverse religions of the world, in short men imbued with the spirit of philosophy in all religions, so much so, that those who happen to sit under his feet may be saved from the pitfalls which beset those who pursue the profitless wranglings about religious principles. Classes should be held which should give the taught ample opportunities of exercising their own judgment to draw conclusions without being put to the necessity of taking everything on trust. This would bring about the longed for desire to bring into one fold, the caste-loving Hindu, the devoted follower of the Prophet, and the enlightened Christian, each holding fast to the central thread of truth in all religions with a tenacity which could amply justify the wholesome influence of the culture of the West. This study of comparative religions may not be palatable to the tastes of the youngsters but it should find an important place in the curriculum of studies for the college classes which exhibit views broad based on the culture received in early years.

Though we need the enlightened form of religion we can ill afford to neglect some of the stories current among prevailing religions. I speak under correction but it cannot be gainsaid that youths of tender years whom we may include in the high school department should have a treat of the text-books of religions based on the particular sect to which he belongs. This sort of exclusive acquaintance with the religious tenets of a particular type though unscientific and conservative to some extent, is yet useful as a constructive basis which would serve well as a sort of ground work for the mature judgment in advanced years. Without this con-

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servative grounding the young minds not adapted to the developed powers of reasoning, will find themselves drifted to waste devoid of the hallowing influence of the sweet thoughts of God. It is this time when they should be made to take everything on trust. Here we may say is the right moment for the teacher to exercise the greatest care and caution and we may even add that he should exercise a severe discipline bringing to bear upon the boys the needful punishment, when there is the least sign of disrespect either to the authority of the teacher or to any body whom God has made to rule over us. It is not seldom that the untoward acts of the students are dismissed as the consequence of mere youthful frivolity. This neglect is positively dangerous, for, the habit the second nature gets into the daily life of the individual, blinding his clear mental vision and leading him to evil ways so as to be the victim to all crimes which exhibit themselves in violation of religion, of law, of order and of humanity. In the selection of literature a wise discrimination should be made so as to avoid those which savour even to a very limited extent debatable topics which would land the mind susceptible to influences in the unsettled land of controversy. To my mind there are the only practicable methods of moral instruction that can be profitably administered keeping out of harm's way the concomitant evil effects, engendered by a remedy not suited to the disease of the social organism.

Anything like pure moral maxims as the commandments of the Bible or the well-knit pithy sayings of Neethisastra would fall flat on the ear, and the sooner it is ended, the better for the respect the teacher demands from the taught. One may suggest certain

books specially importing at the close, some useful moral maxims, the plot being by the way designed to conform to such an ending. Such literature, besides being insipid, the learned ear trained to masterpieces of eminent authors would instinctively shrink away from. Further it would pave the way for imbibing wrong notions of literature, to look for moral maxims where nothing of the kind exists. Most of the text-books prescribed for college classes, none can gainsay the wealth of moral influence which could be drawn from them. A Shakespeare who could talk of a soul of goodness in things evil, a Milton who sacrificed his convenience on the call of duty, a Burke who abhorred any kind of disrespect for authority, identifying the welfare of the people with a strong and good government, a Wordsworth who would devote his heart and pen to the peasant and the poor surroundings around him, a Ruskin who would insist on a philosophic method of political economy and a host of other eminent writers down to the modern days—this long range of immortals who have made England what it is, a precious gem in the ordered work of nations are made to interest us with the wisdom recorded in the scroll of ages. One asks with certain amount of impatience where else to look for moral and spiritual guidance if not from these departed great, whose life is suffused with the very milk of human kindness; and adds in a suppliant tone, why disturb this even course of the crystalline stream of education with the turbid waters of moral maxims. Religious education will do much but it cannot effect all that is required to bring the youths to their proper sense of responsibility.

When all is said and done there yet remain two most potent influences which go a great way in the shaping of the individual, the

parent and the teacher regarding his every day habits and the leaders of public opinion concerning the broader aspects of society. The father is almost the titular deity and the lapse of time has not done anything to injure the father's power. It would be tremendously minimising the wayward foibles of youths if the father is stigmatised for the son's mischief. In India the relation of the teacher and the taught is peculiar. There is a sort of reverence and the teacher is looked upon with a veneration almost bordering on worship. For good or evil he is followed and copied with a fondness even to the very verge of his oddities. Hence it behoves all those embracing the noble avocation of a teacher to be by their actions a pattern for virtue and good deeds, and rise with the dignified air of a judge to administer punishment the desirable corrective in case of disrespect for authority. The influence of the so called public spirited men is certainly out of all proportion to their intrinsic merits for leadership and the voice of the sober and reasoned politicians is often scoffed at, while the ranting demagogues have a large following as the young minds susceptible to influences are apt to be lead away by high sounding words. Such a state of things, it is needless to say, is not conducive to the progress of the country; and it certainly lies in the duty of all public spirited men to exercise a due restraint over their public utterances and warn the youngsters against the danger of associating with such unsafe guides.

Secure in the possession of the two strong safeguards of religion on the one hand and constant admonitions from our betters to boot, we may look with confidence for better days when the youth of the country will redeem his fair name and all evil attaching to

his accounts will become the buried thing of forgotten past.

T. R. VAITHINATHAN.

A COMPARATIVE REVIEW OF THE MATRICULATION AND THE S. S. L. C. SYSTEMS.

THOSE of our readers, who have gone through the October issue of this useful and interesting Review, could not have failed to appreciate among many other valuable contributions, the paper on 'The Relation of the University to the High Schools in the Bombay Presidency' read by Mr. Welinkar, M.A., L.L. B., before the Teachers' Association there. The question itself, though it presents only one of the many aspects which our present subject will comprehend, has been discussed there by Mr. Welinkar in a masterly way that one can hardly find there anything of sectarian or local interest. Many of the points made out there apply equally well to our Presidency also, though Mr. Welinkar seems to be too hopeful of the probable and wholesome effects of the S. S. L. C. Scheme which has taken the place of the old Matriculation.

Our chief object in opening a subject like this is to simply examine the two systems side by side in the light of our own experience, without which a real understanding of the situation is hardly possible. Now, a comparative review of the two systems means an examination of certain existing conditions and a comparison of those with conditions which obtained a few years back in this Presidency and as such the question has to be looked at from several standpoints, if full justice has to be done to it. We herein venture to make our own inferences and offer our own suggestions

in the light of how best the educational needs of this Presidency can be met, of course, bearing the working of the present system in mind.

In the first place, we have to take stock of certain conditions of this Presidency which have in a way to settle, and which themselves will have to be settled by the improvements we have to make in the field of education. This naturally leads us to the first and foremost aspect of the question, namely, how far the Matriculation and the S. S. L. C. Schemes were and have been satisfying the educational needs of this Presidency and what, in the first place our needs are in that direction.

Before we proceed with the subject, we beg leave to inform our readers that we speak of the Matriculation scheme as almost a dead thing, inasmuch as it has been overpowered by the more popular S. S. L. C. Scheme, and anything said in praise of the Matriculation will be like the funeral oration of Antony over the dead body of Cæsar.

Now, we find that except in a few favoured localities all over our country, the needs of the people are mostly pecuniary and not literary and as such any system of education introduced with the best of intentions, is likely to be misunderstood, as it will be judged only from that narrow standpoint. The present impoverished condition of India is such that, in trying to better their condition, our people even go to the extent of thinking, besides forgetting that education is no means to an end but an end in itself, that the present educational system itself is, if not *the*, at least one of the contributory causes of our poverty. So long as institutions and systems are judged by a purely utilitarian and economic standard, any system

runs the risk of failing to satisfy that standard and is gravely misunderstood. The general conditions, enunciated above, apply to our Presidency also and we think, after diagnosing the present situation in a way as many have done already, we may proceed to see how far the Matriculation and the S. S. L. C. Schemes were and have been subjected to this narrow and unfair test. When once the people, at large, fail to realise that education is an end in itself and cannot be for the sake of anything else but knowledge, the times are still fresh in our minds when the enormous failures in the late Matriculation Examination, were shockingly received by them as an annual Arbuthnot crash and as a cause of ruin to many families. Surely there was something rotten in the whole thing for which neither the people nor the originators of the scheme can rightly be held responsible. Any how the Matriculation scheme, in its own days, promised much but did little to the people of India, so that allured by its promises, people were dragged to it as if by a mirage in a forest. But yet there was this advantage that students as they had this ordeal of the Matriculation before them, were not allowed to pass onwards in a land of promise till they, by imprudence added to poverty, were exhausted of their limited resources and thrown on a land of despair—yet such is the hard condition of the S. S. L. C. ridden population which neither unable to judge of their attainments themselves nor with any external *definite* standard to judge of them, is compelled to choose between passing on to the Intermediate and ruining themselves, first, materially. In most cases, the Matriculation decided for the students their future course and did not leave them in a land of uncertainty and darkness, as is the case with

the students coming under the S. S. L. C. Scheme.

With an apology for not having neither space nor time enough to enter into the above aspect more fully, we go on, after having discussed it in a way from the standpoint of the people, to examine the subject from another equally important standpoint, namely, the school. Here again it will not be our province to examine such questions of the nature of those contained in Mr. Welinkar's interesting and suggestive paper, but we can try to see how far the S. S. L. C. system is an improvement on the old system and if the present system itself has to be improved in any way. The above consideration will lead us to study the two systems with reference to the school which will include (1) school organisation, (2) school curriculum and (3) the working of the school. Though our classification appears to be a little artificial, yet the two systems, of which we are at present making a comparative study, have been each intimately connected with the above, so that we cannot pass over them indifferently. The present S. S. L. C. Scheme has indeed affected the organisation of schools far differently from the Matriculation scheme, if school organisation rightly includes everything that promotes or tends to promote the well-being of the school.

In the old scheme, a number of subjects had to be taught to the pupils and those subjects were compulsory and the pupils were not expected to *specialise* in any subject. The system itself, though apparently tending only to a superficial knowledge of things, yet worked well and really promoted a general knowledge of all subjects which helped pupils later on to select those subjects for detailed

study, for which they have already cultivated a special taste. Thus *specialisation*, then, was attempted in time and was not premature, as is the case in the S. S. L. C. Scheme.

Further it will be remembered how the various subjects taught in the Matriculation class received equal attention and treatment at the hands of teachers and how the University made all these subjects compulsory, of course, not forgetting the pre-eminent place to be given to English and Mathematics. The importance of English above all, was indicated by fixing a higher minimum of marks in that subject alone, for a pass. It must be said in favour of the old system that there was a uniform acquaintance cultivated in all subjects and any attempts at specialisation were rather thought to be too premature there. But the two serious anomalies, apart from the rest, were that the University, though having no intimate connection with the daily school life of pupils, held itself fully responsible for the ultimate results of their progress at school and thus their regular school work was not at all taken into consideration and *secondly* there was no element of practicality about it. Thus the net result of the defects noticed above was that the best student under the old Matriculation system was found to be after about 16 years of study at school, only a book-worm and was a fish out of water in practical life.

To remedy these and other defects found in the old system, the S. S. L. C. scheme has been, after due deliberation and with the best of intentions introduced by the Government. Though we can't say definitely so soon how far the S. S. L. C. Scheme is an improvement on the old system in this respect, we are convinced that the system itself is an honest and creditable attempt on the part of the

Government to remedy the defects pointed out above. Consequently in the matter of school equipment, the S. S. L. C. Scheme has demanded a thorough over-hauling of past conditions and demands an efficient staff of teachers, who are not 'Jacks of all trades,' but approved specialists in the subjects they may be expected to handle. This specialisation demands also a proper equipment of the Laboratory, Library, Museum, etc., without which specialisation in the particular subject is not possible, though this addition to the equipment was not even dreamt of in the old system.

To speak on each of these will be a separate thesis and to save time, we shall see how far the school curriculum has been affected by the two systems. With reference to this, we have already said that equal justice was done and equal prominence was given to all the subjects in the curriculum and this, we found to be one of the good features of the old system.

We shall enter presently to discuss this aspect of the question with reference to the S. S. L. C. Scheme and see how far the system is defective in this respect. But at the same time we must not forget that the organisers of the present scheme have indeed done a yeoman service to this Presidency in the field of education in having given to the people a system of education which indeed promises to be more fruitful to the people than the old system. In a word we may characterise this as a system in which *specialisation is the chief feature and practicality is the essence*. Judging of our country as it is at present, we may find that any system of education which ignores the practical side of things cannot be of any good and in this

respect, the present scheme is really a boon to the people.

Further, another commendable feature is that much of the responsible work, once professed to be done by the Matriculation is now safely and judiciously left in the hands of the teachers who have become a self-governing body more or less within the school and the certificate given to the pupils is a record of their school work correct to a minute and a day. Thus in the S. S. L. C. Scheme the teacher is rightly given a place in the vital matter of sitting in judgment over the students' school work, which place was denied to him a few years back and which he justly deserves by virtue of his intimate connection with his pupils. It is necessary here to say a word or two on the facilities given to the teacher to secure accuracy and efficacy in the work entrusted to him. We mean the marking system and the division of the subjects into the A, B and C groups.

Here again the above two factors are not an unmixed blessing to the teacher as well as to the student as we shall see presently. In the *first* place, the marking system has created a great confusion in the minds of teachers and the very possibility of doing full justice to it is being questioned. There are honest and strenuous attempts made everywhere to give a uniform system of marking to all schools which, beyond doubt, is sure to lead to profitable and accurate results. We regret we have to discuss that subject in a separate paper as it requires much time and space and we leave it for the present saying that the advantages of the system, if worked uniformly and well, can hardly be over-estimated.

Secondly, the division of the subjects into

the A, B and C groups has rather an unhealthy effect and may be characterised to show a little bit of indifference though not a want of consideration. Whatever may be said in favour of this division we cannot even for a moment think that the classification into *compulsory* and *optional* is in any way wholesome. The very fact of finding a subject in either of the less fortunate B or C group compromises the importance of that subject not a little and it is more so if it falls in the B group. The reason for this is not far to seek and it is really deplorable to find that subjects like Indian History and Geography should be relegated to an insignificant position and subject like English History and Tamil of the C group have to be selected at the option of the students. Thus instead of the subjects controlling the students, the latter have the subjects under their control. But yet who does not know that Geography has been fast becoming more and more important and interesting day by day and assuming a scientific nature? We do not wish to be misunderstood in any way while making the above observation but still they are plain facts. Before we talk of it at full length in another issue, we are at present content with saying that above all, the place assigned to Indian History and Geography subjects in the school curriculum is really insignificant and likely to obliterate the usefulness of the same in the eyes of the pupils and the teachers.

This is no doubt a serious defect in the scheme to remedy which we offer our suggestions from a knowledge of the existing unsatisfactory condition of the school curriculum. *Thirdly* we shall not have done full justice to the subject if we do not refer to

the third and the most important advantage of this scheme, namely, the specialisation of certain subjects which though premature, involves a great amount of practical knowledge, obtained in specialising them. In a country where practical life is at its lowest ebb, where theory has attained its more than natural dimensions and where the benefits of co-operative enterprise and industry are not realised and in short where people are conservative to the core, decidedly the S. S. L. C. scheme is a boon and is a first step in the promotion of technical knowledge and education, a want of which has been long-felt in this country.

We do not propose here to enter into the details of the working of the S. S. L. C. Scheme, nor do we mean to speak of the advantages of Technical education.

While thanking the Government for the wise measure they have taken in having introduced the Scheme, we beg to offer our suggestions which will be a compromise between the old and the new as the old by itself is not attractive and the new by itself passes unnoticed. The suggestions are made in the light of the anomalies and the defects we noticed above and will be taken as such. The outstanding defect of our educational system has been referred to by the Government even, to remove which they have been making serious attempts.

In the 'Memorandum of some of the results of Indian administration for the past 50 years' under the head, 'Education' published by the Government itself, the following observation are made :—

"Until recent times the curriculum of Indian schools and colleges was almost entirely literary and tended to produce a

larger number of graduates in 'Arts' than could be absorbed in the public service and it made no provision for the requirements of commerce, agriculture, or the scientific professions. This defect still exists, but in a less degree and its removal is only a question of time."

With the above quotation, we may proceed to offer our suggestions which are as follows :

Firstly. Indian History and Geography may be put in the A group and may be given a place side by side with Vernacular Composition which they rightly deserve on more grounds than one.

Secondly. Tamil and the other vernaculars may be restored to their proper places instead of being placed in the optional C group. This has been long a controversial matter and the reasons for and against appear in papers.

Thirdly. A greater consideration may and must be paid to the school marks by heads of colleges and offices. We very commonly hear of students getting even below 30 % in English, as having obtained admission in Government colleges.

Fourthly. Some more subjects of a mechanical nature as carpentry, masonry, weaving, etc., may be introduced with advantage and pupils may be taught to realise the dignity of labour. The School of Arts at Madras and the Reformatory School at Chingleput and the Industrial School at Velacherry are worthy models to be imitated.

Fifthly. A uniform system of marking must be adopted throughout the Presidency.

Sixthly and lastly. In the course of three long years covered by the S. S. L. C., the Board must be able to hold at least two

examinations as they are calculated to be a means of guidance to both teachers and pupils and as they will tend to regulate the entries in the certificate.

With these and with a few others, which will be suggested later on, we beg leave to say that the S. S. L. C. Scheme has rightly taken the place of the Matriculation, upon which it is surely an improvement and which, if worked properly, will have so much good in store for the people of not only this Presidency but also for the country at large.

S. G. SUBRAHMANYAN.

THE TEACHING OF SHORTHAND IN SECONDARY SCHOOLS.

NOW that the times have changed, new tastes have sprung up, new ideas are afloat, and vast changes happen, and new methods appear, it seems essential to move ahead and say a few words on the subject.

It would seem strange to hear of Shorthand sometime ago in public schools when boys appeared for the Matriculation examination. Except the professional men, who could not continue their studies in an arts college, and except very few with higher educational attainments, who practised the art, others had no chance of learning it and it seemed even degrading to learn it. The main reason, perhaps, was the want of recognition by the University of a separate branch of study for commerce, and anything short of a University education seemed low in the eyes of the public. But, with the advent of the School Final course and the recognition of the commercial subjects by the Government as compulsory or optional groups, more begin to learn them now than before. I do not mean to say that this should take the place of an

arts study, but, it is enough to point out that the latter has been cared for to the neglect of the former. Of course a good general education followed by shorthand or, in fact, by any other commercial subject is highly desirable and it will be only possible to realise it when the control of study rests in the hands of the University. I shall not enter upon it at present, for, it may very well form a separate theme by itself, nor shall I compare the standard of attainments of the old Matriculates with the present School Final candidates, or even discuss the advantages or disadvantages of specialisation of subjects in the IV Form, to speak nothing of the new system of study in the college courses. Even here the old and the new University men have to be compared which again may be considered separately.

New methods are advocated in teaching various other subjects and new treatises and articles published for the benefit of all by those who have the leisure and energy and talents to write. So it may not be amiss to say a few words on the present subject as regards teaching and so on. Of course it is quite a different matter to consider as to how it is taught in the various technical institutions, for, those, who study there, have already attained the age of discretion and are probably the employees in some private concerns or public offices. But the same is not the case when handling the subject before the youngsters who have to be impressed through the medium of a foreign language. In England or the Continent a good introductory and flowing lecture about the preliminary points as regards the introduction of the system, the changes it underwent, the criticism it evoked, and the final form in which it exists to-day, and the various other systems

which are competing in the market, will perhaps do well as boys can easily understand their mother-tongue and the teacher may proceed without any fear of having spoken in vain. But the conditions vary here and the subject has to be presented in a very interesting and charming manner so as to attract their attention. The object should be to make even the duller and the most mischievous understand the same by amusing them now and then with little stories consistent with the subject on hand and presenting the various points gradually so that they can't divert their attention elsewhere.

The course may well be commenced with the definition of 'Shorthand' or 'Stenography.' Then the principle on which the symbols have been provided for each different sound may be explained. The meaning of the term 'Phonography' should be clearly given with a number of illustrations. The distinction between Stenography and Phonography must be clearly drawn. A brief account of phonetic spelling should be given followed by examples in words and sentences. To say anything about the spelling reform will be quite beyond the point considering the age of the pupils and their mental grasp.

It may be pointed out that there are '36 broad, typical sounds,' 24 being *Consonants* and the rest *Vowels*. Charts of the mouth and the vocal organs will much simplify the teaching in showing the methods by which the various sounds are produced. All students may be asked to follow the teacher in uttering the sounds aloud so that they may realise their full significance. The fact that the Pitmanic alphabet is different from that of 'longhand' may be impressed upon them with reasons. They should be told that the inventor had considerable difficulty in analysing

the sounds of the spoken language and that very minute shades of distinction in pronunciation of the vowel sounds is ignored so long as the one does not encroach upon the province of another. As the students have advanced a little and are familiar with the subject, a brief history of shorthand may be given just pointing out the number of systems followed before the introduction of Pitman's and how they differed from this. Examples of words may be taken to illustrate the same.

The consonants are to be written on the black-board. A dexterous use of the chalk should be made in writing the thin and thick lines. The classification of the consonants should also be clearly written explaining each class fully. It may be pointed out how from only 5 strokes p, t, ch, k, r (ay) all the others can be easily got by thickening or curving and so on. The geometrical forms of the various consonants should be shown. Pupils should be told about the method of holding the pen or pencil and that neatness and accuracy of work will go a great way to make a good writer. They should never be allowed to get weary of the subject. Their interests should be kept awake always. The lessons should be given in a chatty, conversational style so that they may easily appeal to their minds. They may be asked to write the consonants class by class and corrected wherever wrong or it is even better if the form of the outlines is written in their note-books and they are asked to copy likewise paying attention to the proper sizes and slopes of the consonants. More work should be extracted at school than relying too much upon homework. It should be urged again and again that thick curved strokes should be thick only in the middle and taper towards the ends.

Many days should be spent before the next exercise on vowels is taken up. 'Slow and steady wins the race' and that will avoid the error of building upon sand. Having made sure of the first step by repeated test questions the next chapter can be taken up. Here again the order in which the vowels are written in their places should be explained with their reasons. The whole class should be made to realise the full value of the sounds by being made to utter them. The difference in pronunciation between long and short vowels is in point of time. This should be shown by writing the two sets of vowels side by side and explaining how the one can be got from the other. To illustrate the positions of vowels before and after single strokes some consonantal outline should be taken and the vowels marked before and after them in the case of straight or sloping strokes, and above or under, in the case of horizontal strokes, and boys should be made to read what is written on the board.

The lesson as to the method of joining consonants requires a good deal of attention and especially the way of marking the vowels between two strokes. But happily here the rules which used to confuse the beginners as regards the marking of the second place Long and Short vowels between two strokes have been simplified in that both are given the same position in the new edition of Pitman's Shorthand. In this connection it may be said that the rules on many other points have been made much simpler as, for instance, in the use of the diphthongs. It is not our purpose here to enter into the merits of the new book the changes indicated above being quite sufficient to show on what lines the revisers have proceeded, the one principle aimed at being clearness and simplicity

throughout. The other lessons can be taken up in succession thus leading the pupils on step by step and making them feel that the ground they tread is firm and strong.

Every rule in the system should thus be taken up piecemeal and impressed on their minds without making them feel diffident. If the first few lessons are successfully taught and they gain an insight into the subject, it will not be very difficult afterwards to proceed. Points of difficulty may be analysed beforehand and notes of lessons taken, if necessary, so that they may not escape notice. Students must be made to write all the illustrative examples in the book a number of times. Reading and writing practice should be freely given from outside in addition to the textbook. It serves a double purpose, for, besides improving shorthand, it also adds to their knowledge of English and vocabulary. They should also be advised that, whenever possible, they should think of the shorthand forms of strokes or words even when they are not engaged with a pencil and a note-book. Charts of the alphabet should always be hung in the class-room so that the forms may be firmly fixed in their minds.

The subject requires a good deal of patience both on the part of teachers and the taught. Boys should be made to love and revel in the art and not simply to write mechanically. The worst boy can be made to be the best afterwards if he receives a good training. It is even advisable, if possible, to introduce some system of prizes besides the allocation of marks for the various exercises and examinations so that a healthy rivalry may be set up amongst them. It is also necessary to stimulate their activity by pointing out the advantages of learning the twin arts, shorthand and typewriting. By the

by the latter is also, like shorthand, a fit subject for consideration which, if possible, will be dealt with later on.

What has been said hitherto is only an outline sketch. To give a full course of lessons on the instructor will take up much space and time. The plan may be varied to suit the different conditions. Any how it is hoped that the few foregoing hints may be useful.

B. S. RAMASWAMI AYYAR.

THE TEACHING OF ARITHMETIC IN CEYLON SCHOOLS.

AMIDST the clamour in the Metropolis for Latin and Greek and the "Crusade" against the introduction of the Vernacular into the English-school curriculum, and the scare in the Provincial towns against the proposed University College and the consequent centralization of all higher education at Colombo, one is apt to lose sight of the regrettable fact that the methods of teaching the elementary subjects—Reading, Writing, and Arithmetic—generally employed at present in our schools are anything but satisfactory.

Indeed it is waste of time and energy to formulate any scheme for higher education when there is a crying need for a distinct and substantial improvement in the methods of teaching the most fundamental principles of elementary subjects. It is the bounden duty of those responsible for the education of the Island to make strenuous efforts to alter this state of affairs. The least the Government and the Managers of Schools might contribute towards this end would be to raise the status of the generally over-worked but ill-paid schoolmaster and attract into the profession such men as would by their skill and untiring energy overcome the many difficulties with which the training of young minds is beset,

and to eliminate from the profession all those who look upon it as an adventure, a stepping-stone to something higher (?), or "the last resource of the imbecile."

It is too difficult a task to do full justice to the entire subject—the teaching of the three R's—within the scope of a single article and hence I propose to deal here briefly with the teaching of Arithmetic, which should always find the first and foremost place in any school-curriculum. *Firstly*, I shall point out some of the wrong and improper methods generally employed by teachers of Arithmetic and offer certain suggestions, which, if carefully carried out, will make the teaching more systematic and scientific. *Secondly*, I shall examine how far the syllabus of work in Arithmetic as prescribed by the Revised Code for 1913 is suited to the various standards and suggest certain alterations in it.

PART I. DEFECTIVE METHODS.

To begin with, the mischief is being done at the very outset of a child's school-career. Except in those insignificantly small number of schools where Kindergarten principles are in a measure successfully attempted, seldom, I venture to say, are beginners in

Numbers and
Infants.

Arithmetic properly looked after. For one of the chief

mistakes committed by the Infants' teacher is to make the study of numbers and their analysis too abstract to be interesting to young minds. The teacher should remember that Arithmetic is an abstract science, and that any attempt at presenting the subject with abstractions, particularly to little children, cannot but result in failure to a greater or less extent. Moreover, he should pay special regard to the observant use of the organs of sense, especially those of sight and touch. For these

Number-
Pictures.

reasons one cannot fail to see the advantages of "Number-pictures" as an occupation for young chil-

dren. The formation of these pictures employs both hand and eye and it is but natural for a child to remember what it *sees* and *does* better than what it is asked to repeat by rote. The most effective "Number-Pictures" are those that (i) impress on the memory the value of each number by a distinct mental picture, (ii) allow all the components of the number to be vividly shewn in the concrete, (iii) present pictorially our system of notation, and (iv) if possible illustrate pictorially the four simple rules. "The vivid concrete and abstract arithmetic sheets for Number-laying" which are adapted for class-teaching fulfil each of the above requisites of effective "Number-pictures." The number-board may also be used with advantage. The ball-frame is one among the other devices recommended for class-teaching; but it cannot produce as good results as the "Number-pictures," for the reason that in working little problems, 5 balls leave no clear distinct mental picture which the child can differentiate from 6 (say), when the balls are once removed from sight.

The next serious defect is the general neglect of mental calculations throughout the school, in the elementary stages in particular. Probably no subject requires more skilful handling than this, if successful results are to be produced by intelligent methods. It needs more *thoroughness, elasticity, gradation and arrangement*. The teacher should at the very outset drill the children in simple mental tests by various illustrations with concrete objects, taking care that each step is thoroughly mastered before the next is attempted; and thus lay a secure foundation and make the way clear for the work in the Senior School. Else, the result is bound to be disastrous; and the effect of it will be felt not only in the higher classes but even later on in business-life. On one occasion I was surprised to come across a certain *trained* Sub-Inspector of Schools who could not find what percentage 500

was of 800, without the aid of a paper and pencil. Why! One invariably comes across Postal Clerks who cannot deduct from Rs. 5 the cost of 25 five-cent-stamps, unless they work it all out on paper. It is possible to multiply instances of the waste of public time that the neglect of mental calculation at school involves.

One of the initial causes of this defect is the use of Slate-work in the early stages, which allows the children more time than is necessary and tempts them to indulge in finger-counting, stroke-counting, and several devices of one kind or another for just avoiding real mental calculations. For these and other reasons, slate-work should be altogether condemned and paper work be insisted upon. A still more dangerous practice

which robs the children of every possible chance of making mental calculations in working sums is the pernicious "rough-work" system. It consists of dividing each page of the exercise-book into two columns, the left being reserved for "the method," and the other for what is conveniently styled "rough-work." A careful study of the "rough-work" column cannot but drive home even to the most ardent advocates of the system the evils of it. The following worked-out example taken from an exercise-book of a Sixth standard pupil is a striking illustration of the disastrous results this unnecessary practice leads to:—

METHOD.	ROUGH-WORK.
$\frac{2}{3}$ of 5 = $\frac{1}{1-\frac{1}{3}} + \frac{2}{3} + 1\frac{1}{3}$	$\frac{2}{3}$ of 5 = $\frac{2}{3} \times \frac{3}{1} = \frac{2}{1} = 2$
$= 3 - \frac{1}{3} + \frac{2}{3} + \frac{2}{3}$	$1 - \frac{1}{3} = \frac{2}{3} = \frac{16-11}{16}$
$= \frac{2}{3} - \frac{1}{3} + \frac{2}{3} + \frac{2}{3}$	$= \frac{2}{3}$
	$\frac{1}{1-\frac{1}{3}} = \frac{1}{\frac{2}{3}} = \frac{1}{1} \times \frac{3}{2} = \frac{3}{2}$
	$= 1\frac{1}{2}$
	2) 1, 5, 4, 8
	2) 1, 5, 2, 4
	1, 5, 1, 2

$$= \frac{120-128+30+45}{40} \quad 2 \times 2 \times 1 \times 5 \times 1 \times 2 = 40$$

$$= \frac{67}{40}$$

$$= 1 \frac{27}{40}$$

The example speaks volumes and it were best to let it narrate its own tale. But two more aspects of the question may be added

which the illustration cannot easily suggest:—
(1) The division of the page into columns creates an altogether wrong notion in the minds of pupils that the two columns must somehow or other be filled up, and as a result a good deal of written work takes the place of mental calculation; (2) the very expression "rough-work" encourages such untidiness and carelessness that in most cases one can hardly make out anything of what is scribbled in the column. For these considerations, the teacher should see that the whole working is exhibited step by step systematically and methodically, no "rough-work" of any kind being permitted.

Below I give a couple of illustrations to shew that intelligent methods need no "rough-work":—

Exercise 1. Add together:—

	yrs.	dys.	hrs.	min.
	17	201	13	41
	9	333	21	18
	7	149	10	12
	27	173	8	49
	14	350	18	59
Answer	77	114	0	59

By adopting the following mental process, one can work through the above example and write down nothing but the answer.

METHOD:—1st step. The sum of the units' digits of the min. column gives 29; at once set

down 9 as the units' digit of the min. in the answer.

2nd step. The tens' digits of the same column together with the 2 brought forward from the 1st step total 17; 17 tens by 6 tens give 2 times and 5 tens over; set down 5 as the tens' digit of the number of min. in the answer; and carry over 2 hrs.

3rd step. The hours as in ordinary addition amount to 72; 72 by 24 gives 3 days and 0 hrs. Set down 0 for hours in the answer and carry over 3 days. (The tens and units of the hours column may be added simultaneously.)

4th step. The days column is added thus:—
(i) Begin from the left instead of from the right as usual; (ii) The digits in the hundred's place amount to 10. $1,000 = 300 \times 3 + 100$; (iii) $100 +$ the tens of the column $= 290 = 60 \times 3 + 110$; (iv) $110 +$ the units of the column $+ 3$ brought from the 3rd step $= 129 = 5 \times 3 + 114$; so that the days $= (300 + 60 + 5) \times 3 + 114$ or 3 years and 114 days. Set down 114 days in the answer and carry over 3 years.

5th step. As an ordinary addition the number of years $= 77$.

Example II. A bankrupt's liabilities amount to £765. 16s. 8d. His assets are worth £476, 5s. 0½d. Find to the nearest farthing how much in the pound he pays his creditors.

Papils ignorant of decimalization of money at sight and contracted division would do well to adopt the following very elegant process:—

METHOD:—Dividend at £1 = £765. 16s. 8d.	£ s. d.
10s. = ¼ of £1	476 5 0½ = the total divid. paid.
2s. 6d. = ¼ of 10s.	3 2 18 4 = divid. at 10s. in the £.
	93 6 8½ = (deficit)
	95 14 7 = divid. at 2s 6d. in the £.
	2 7 10½ = (excess)
	19 11 5½ = divid. at 3d. in the £.
	2 7 10½ = divid. at ¼d. in the £.
	(approx.)

Hence the creditors receive 12s. 6d. — 0½d. = 12s. 5½d. in the pound.

The last and the most important reason for the lack of proper mental calculations is the students' ignorance of devices and short methods adapted for such calculations. For instance, a pupil of the second or the third standard might not at first sight be able to find mentally the cost of 8 articles at Rs. $1/35$ each. But if he be told that every time he buys an article he pays for it 1 rupee, 1 twenty-five cent piece and 1 ten-cent piece, he would soon discover that the cost of the 8 articles was a sum composed of 8 Rupees 8 twenty-five-cent pieces and 8 ten-cent pieces, or Rs. 10/80. It is not possible to lay down fixed rules for discovering these artifices; but they should spontaneously suggest themselves to the teacher from the form of the questions proposed. A general idea of the nature of these artifices may be seen from the following:—

1. To subtract 328,239 from 500,000.

Method:—(a) Notice that both the subtrahend and the minuend are of the same number of digits.

(b) To obtain the first digit (of the answer) from the left, subtract the first digit 3 of the subtrahend increased by unity from the corresponding digit 5 of the minuend. (c) For the 2nd, 3rd, etc., up to the last but one digit take the deficit of the corresponding digit of the subtrahend from 9, (d) and for the last the deficit from 10. Thus we obtain the difference 171,761.

2. From 238,239 subtract 75,367.

Method:—First subtract 75,367 from 230,000 as above and obtain 154,633; again add 154,633 and 8,239 thus: (154+8) thousands (6+2) hundreds + 33 + 39 = 162,872.

3. To multiply 759 by 334 (mentally.)

Method:— $759 \times 334 = 253 \times 3 \times 334 = 253 \times 1002 = 253506$.

4. To reduce 19941 pence to £. s. d.

Method:—Since every 6,000d. = £25, 18,000d. = £75; and since every 1,000d. = £4 + 40d. 1941d. = 2000d. — 59d. = £8 + 80d. — 59d. = £8. 1s. 9d. Hence 19941d. = £83. 1s. 9d.

5. How many lbs. of tea at 1s. $10\frac{1}{2}$ d. can be bought for £45 5s. $7\frac{1}{2}$ d.

Method:—£45 = 2s. $\times$ 450 = (1s. $10\frac{1}{2}$ d.) $\times$ 450 + $1\frac{1}{2}$ d. $\times$ 450. = 1s. $10\frac{1}{2}$ d. $\times$ 450 + 1s. $10\frac{1}{2}$ d. $\times$ 30 = 1s. $10\frac{1}{2}$ d. $\times$ 480 5s. $7\frac{1}{2}$ d. = 1s. $10\frac{1}{2}$ d. $\times$ 3. $\therefore$ £45. 5s. $7\frac{1}{2}$ d. = 1s. $10\frac{1}{2}$ d. $\times$ 483. $\therefore$ Number of lbs. = 483.

6. From 5 miles 2 furlongs 28 po. 3 yds. 1 ft. 6 in. take away 4 miles 6 fur. 39 po. 5 yds. 1 ft. 4 in.

Method:—If 2 inches were added to the subtrahend it becomes 4 miles 7 furlongs.

Hence the subtrahend falls short of 5 miles by 1 fur. 2 inches. And therefore it falls short of the minuend by 3 fur. 28 po. 3 yds. 1 ft. 8 in.

7. To divide 56 tons. 6 cwt. 1 qr. 13 lb. by 321. Remembering that 1 cwt. $\times$ 321 = 16 tons. 1 cwt.

1 qr. $\times$ 321 = 4 tons. 1 qr., and 1 lb. $\times$ 321 = 3 cwt. — 15 lbs., = 2 cwt. 3 qrs. 13 lbs.,

the following mental process may be adopted:—

			tons.	cwt.	qr.	lb.
cwt.	qr.	tons.	cwt.	56	6	1 13
3	1	$\times$ 321 = 16	1	$\times$ 34 =	52	8 1
1 qr.	$\times$ 321	=	4	8	0 13	(deficit)
			4	0	1	
1 lb.	$\times$ 321	=	2	8 13	(deficit)	
			2	8	13	

$\therefore$ 3 cwt. 2 qrs. 1 lb. is the quotient.

8. To find $(\frac{1}{5} - \frac{1}{10})$ of £12. 10s.

Method:—

Given expression = $(1 - \frac{1}{5} - \frac{1}{10})$ of £12. 10s. = $(\frac{1}{5} - \frac{1}{10})$ of £12. 10s. = $\frac{1}{10}$ of £12 10s. = 12½d. = 1s. 0½d. Ans.

9. Simplify $\frac{1}{2} + \frac{1}{7} + \frac{1}{14} + \frac{1}{28}$.

Method:— $\frac{1}{2} + \frac{1}{7} + \frac{1}{14} + \frac{1}{28}$ = $\frac{1}{2} + \frac{1}{7}(1 + \frac{1}{2} + \frac{1}{4})$ = $\frac{1}{2} + \frac{1}{7} \times 1\frac{3}{4} = \frac{1}{2} + \frac{1}{4} = \frac{3}{4}$. Ans.

The next defect to be noted in the present system is the lack of right methods especially on the part of untrained teachers. Most teachers content with the knowledge they had received while they themselves were students and being too lazy to keep themselves abreast of modern progress hand down to the present generation crude and old-fangled methods of the nineteenth and eighteenth centuries. Ninety-nine teachers out of a hundred ignore the science of Arithmetic and teach only the art of it. They forget that

The Science and Art.

the importance attached to the study of Arithmetic is due not so much to its value as a practical art as to its value as a mathematical or logical exercise that yields intellectual fruit, that "helps to quicken and concentrate the attention, to bring under control the reasoning faculty, to shew by what method we can proceed from the known to the unknown, to enable us to perceive the nature of the fallacy, and to discriminate the two sides of the fine line by which the true is often separated from the false." "To

Rules.

divide a vulgar fraction by another, invert the divisor and proceed as in multiplication." "To convert a recurring decimal into an equivalent vulgar fraction, subtract the number formed by the non-recurring figures from the number formed by all the figures as far as the end of the period and divide the result by a number formed by as many nines as there are figures in the period followed by as many ciphers as there are non-recurring

decimal figures." This is the kind of rules with which most teachers cram their pupils without ever attempting to explain the principles enunciated therein. Only the other day I heard of a pupil teacher and a student of standard 8

who could not prove that the remainder obtained by dividing a certain number by 35 (using factors) was the true remainder. This is nothing extraordinary; for a whole class—the Cambridge Senior Local class—once astonished me when they failed to deduce the value of $.016629 \div .00723$ from the value of $16.629 \div 7.23$. These things would never have happened had the teaching in the earlier standards been more scientific. In this connection, I have a mind to cite several illustrations to shew how blind men are to intelligent methods; but time and space compel me to be content with the following:—

(1) Reduction of half-sovereigns to sovereigns by multiplying by 10 and dividing the result by 20, or guineas to £, s. by multiplying by 21 and dividing the result by 20.

(2) Reduction of mixed fractions to improper fractions for purposes of addition and subtraction.

(3) Application of fractions to compound quantities by reducing the compound quantities to their lowest denomination: e.g., £3 11s. $5\frac{1}{4}$ d. $\div 4\frac{1}{2} = 34209$ farthings $\times \frac{2}{5} =$ etc.

(4) Application of decimals to simple and compound quantities by reducing the decimals to their equivalent fractions.

I have noticed only some of the more common defects. The remedy for these and others lie partly in the hands of the teachers and partly in the

hands of our Inspectors of Schools. The teacher should give no rule on authority for the pupils to accept blindly. Every rule should be demonstrated with concrete examples and taught inductively by means of oral exercises. Too much adherence to text-books gener-

ally unsuited to local conditions should be discouraged. As for the **The Inspector.** Inspectors, they should pay more frequent surprise visits to schools and reprove the teachers for wrong and improper methods. In addition they should at the annual examination test principles more than practice. The common frenzy for problems that serve no practical purpose in after-life might be given up and instead a few mental tests be substituted. Thus ere long, everywhere none but the best methods will be adopted.

(To be continued).

F. H. V. GULASEGARAM PILLAI.

EDUCATION AND CO-OPERATION.*

The advantages of co-operation are so patent that it behoves one to enquire why it does not spread like wildfire, to adopt the Registrar's language. Co-operative credit is now well-known; yet the authorities have curbed registration as the quality of work of the registered societies has to improve. Caution is sometimes overdone; for the quality improves with supervision which again is possible only under quantity in concentrated areas. Yet we may enquire why it is even in scattered societies the co-operative quality falls below the ideal.

Now the essentials for a successful society are that there should be wide publicity of transactions, that the management should be subject to the amplest local criticism, that each unit member, however poor he be, is as important as any other member, however rich he be, for each pledges his all, that watchful care should be bestowed on the good conduct of all members, that a strong conscious feeling that each loan should be applied to a productive purpose and dereliction implies

risk to each and every member and so on. In other words, the members should be educated to intelligently watch on behalf of the public the doings of the management and of each and every member. The absolute essential is education—albeit elementary but sufficient to check the society's working.

Education is not only necessary for the progress of a society when registered but is also requisite for the initial formation. How often have my audiences not understood the possibility of co-operation! It is difficult for an educated man to realise how poorly receptive the human brain is when deprived of the blessings of education of some sort or other. This is the chief reason likewise why co-operation has not shown activities other than credit. It is all easy to point out the shining examples of activity in other lands but our material is not prepared to receive lessons. Imagine my giving a lesson on the differential calculus to a non-mathematical class. After all the education necessary to understand co-operation is very elementary.

Several co-operative societies have recognised the bearing of education on co-operation and have made rules to manage primary schools and to penalise members who keep their children away from school. In fact the two—co-operation and primary education—are interdependent.

Education is necessary for the residents of a village to agree to start a society, likewise to keep the society going on after it is started: and to develop non-credit activities. It is unnecessary to belabour this point as people themselves welcome education in such villages. The more the people are educated the better co-operation will flourish. In villages with co-operative societies every one ought to get educated. There ought to be no exception; otherwise, two different irreconcilable castes will arise—the educated and the uneducated. Yet even when the majority desire there will yet be a residuum of people who will not go to school except under compulsion. Wholesome medicine is nauseous and resented.

* A paper read by Dewan Bahadur R. Ramachandra Rao, B.A., I.S.O., Collector of Nellore, and formerly Registrar of Co-operative Societies, at The Second Madras Provincial Co-operative Conference.

It is enough if in the beginning the system is limited to villages where the outstanding loan is equal to the village *beriz*—a good index to the importance of the society. If necessary the populace may be asked to contribute; or to provide the school building free; or to set apart land as the schoolmaster's *inam*. These are matters of detail. The education should be as elementary as possible—reading, writing, arithmetic, geography of the district and principles of co-operation. The last subject should as in Bengal be made a part of the vernacular in all primary schools whether they are in villages having co-operative societies or not. The bedrock of the society of co-operation is continued watchfulness which can be secured by general education only and, any failure on account of want thereof at the present moment will be disastrous. A wise statesman will take steps in time to avert danger.

DR. HENDERSON'S LECTURES.

In December last Dr. Henderson, Superintendent of the Madras Museum, delivered a series of four lectures on vertebrate animals with illustrations. He said that the lectures were intended to make the Museum more popular and that he would illustrate all his lectures with the pictures of animals secured in the Museum. He further said that he would avoid as much as possible all technical expressions and make the lectures as simple and popular as possible. The following is a brief summary of the elaborate and interesting lectures:—

First Lecture.

Monkey was a very common animal in Southern India. There were very many varieties among the monkeys. They were very numerous in Madras some 40 or 50 years ago. They were very mischievous in their tendencies and often made raids upon houses and stole away the eatable articles from them. Very little was known about the distribution of monkeys in

various parts of the world. That kind of monkey which was seen in Madras and its environments was not found in north of the Godavery. The monkey found in Northern India differed from that found in Southern India.

The lecturer then exhibited two specimens of what he called *slender sloth*s. Their peculiar character was that they often put their head between their hind legs and rested on the branches of the trees. They lived upon insects and fruits. They possessed large eyes and they were able to see all things in darkness.

Cats were carnivorous animals and there were very many varieties among them. Tigers belonged to the species of cats. In fact they were larger cats in appearance though more cruel and fierce in their nature. Lions also belonged to this species of animals. The common characteristic of the cats was that they could retract their claws.

Civets were found in the neighbourhood of Madras. They gave a kind of scent which was considered to be valuable by some people. Toddy-cats lived on the palm trees generally. They were commonly called "maranai." Mongoose were living in many garden compounds in Madras. They also lived in the hollows of trees. They had a bitter hatred for snakes and they were popularly considered to be immune from the Cobra poison.

Jackals were found in all parts of the world. They were very useful as scavengers. They always went in packs. Their howlings produce big sound. Indian foxes were found in the neighbourhood of Madras. They were not to be found in such large numbers as the jackals. They were very cunning. Hedge hogs were found in Coimbatore and Trichy.

Bats were found in large numbers in Madras. They had their wings entirely different in structure from those of the birds. Their wings corresponded to our arms. They were nocturnal

animals. They always were hanging with their heads downwards. Big ones were known as the flying fox from the peculiar resemblance of their heads to those of foxes. They were all found in temples and closed uninhabited places.

Hare was a harmless animal. It differed from a rabbit a great deal. It was known for its rapidity of movement.

Squirrels were commonly found everywhere in India. They were active in the day and slept like human beings during the night. Rats appeared in the nights and hid themselves in the day-time. Rats were destructive in their nature. It was a source of danger to man. It had a tendency to adapt itself to every climate. They travelled from continent to continent in the ship. Many animals could not go from one country to another but rats cared not for the barrier of the sea and the change in the climatic conditions in different places. Rats were a source of nuisance. They stole away the food of man and communicated diseases easily (example plague). In England there was another kind of rat known as the *Norway rat*. It was so called because it was supposed to have come from Norway. The common rats in India were black rats. Another kind of rats lived in the corn fields and they were known as the field rats.

The last specimen referred to was the *scaly ant-eater*. Its outer surface was very hard and its lower surface was very soft. It lived upon insects.

Second Lecture.

BIRDS.

The learned lecturer in the course of his interesting lecture said that he thought that it was unnecessary to give a description or a definition of a *bird*, since he felt sure that all persons in the audience had, as he presumed, an idea of a *bird*. It would be wrong to say that all animals that flew in the air were birds because there were some birds that did not fly at all, for example, the ostrich. The short definition of a bird was "An

animal with feathers." Classification of birds was a very difficult task. In this world there were altogether some 12,000 species of birds. In the Indian Empire alone they had very nearly one-sixteenth of the total number.

The Indian crow was a very familiar bird and it was found in all parts of the world. There were two varieties of crows. The black bigger animal was known as the *jungle crow*. The smaller crow with the grey neck was more commonly found in the neighbourhood of towns. The latter was more intelligent than the former. It lived on insects and fruits. The crow played the part of a scavenger and in that way it was a useful animal, though its mischief in stealing away the food of people was very great. The haffets were seen always in a group of seven making great noise. Bulbuls were known for their voice. They were found in the neighbourhood of the Madras Museum. King-crow was a familiar bird in the plains. They produced a harsh noise and persons of irritable temper often went out to drive them out of their hearing. The Tailor-bird generally built its nest in the croton bush. The bird was so-called because it very finely stitched the edges of the leaves of the croton and made its nest. If one leaf was found insufficient, it stitched several leaves together and made its nest. Mango bird was a yellow coloured bird generally found in the mango topes. There were two kinds of *minas*. The Brahmin mina was supposed to have more intelligence. Paradise fly-catcher was a beautiful bird. Indian Robin and Magpie Robin were also neat little birds. In England they came generally in the winter. They had bright red breasts. They had a habit of erecting their tails. Weaver-bird like the Tailor-bird wove its nest. Unlike the Tailor bird it wove its nest by means of strong fibres. They made the opening into the nest generally under the nest so that other birds and snakes might not get in and rob them of their eggs. The nest was generally suspended just over the surface of water for safety.

Third Lecture.

SNAKES AND THEIR VARIETIES.

The subject of the lecture on this occasion was *the Snakes and their varieties*. Dealing with the subject of the lecture the learned lecturer said that there existed in India two hundred and seventy kinds of snakes. There was a common belief that all the snakes were poisonous. That was a fallacy. Of the two hundred and seventy kinds of snakes it was found out that only sixty of them were poisonous. The rest of them were regarded as harmless animals.

Snakes were supposed to have sprung from ancestors 'that possessed limbs.' There were a few snakes which showed clearly signs of possessing limbs. There were, for example, marks of the hind limbs still found in *Python*.

The skeleton of a snake was then exhibited by the lecturer who said that the skeleton of the snake contained a large number of ribs throughout the body except the tails. The movement of the snake resembled the movements of a centipede "Puran." The snake generally lived in the hollows of the ground. It walked on the tip of the ribs. The body showed an extraordinary development of muscles, which made the snake move swiftly from one place to another. The snakes cast off their scales at regular intervals. The popular belief was that the snake was blind when it cast off its scales. The snake differed from other animals in its structure in having only one lung instead of two lungs. The one lung of the snake was considerably long, though it was narrow.

Most of the snakes, like the birds, laid eggs which were usually buried under ground. The eggs were hatched by the heat of the sun.

There was no general rule to be laid down to distinguish a poisonous snake from a harmless one. The poisonous snakes possessed poisonous fangs which were connected by means of a duct with the poisonous gland

The School boys in England, not so much in India, were the enemies of birds and they had a special desire to rob the birds of their nests.

The common sparrows were found in all parts of the world. The Indian common sparrow was the same as the English common sparrow. The Indian sky-lark resembled the English sky-lark about which the poets had written much. It was an animal of the plains. It built its nest on the plains. It was really a wonder how they secured their eggs and little ones from the ravages of crabs and snakes. Honey-suckers were generally fluttering over the flowerpots, sucking honey from the flowers. Wood-peckers had the peculiar habit of pecking at the trees and producing a jarring sound. They did so to bring out the insects hiding themselves round the trees. Their cry was very harsh. They climbed up the tree with their feet and their rough tail.

King-fishers caught fish by means of their long beaks and lived upon them. They generally sat on the edge of a rock stretching across the stream or river and were watching for the appearance of the fish over the surface of the water and when they came they caught them at once. There was another variety of king-fishers. They flew over the surface of the water in a tank or river catching fish. Swift was a swift-flying bird. It made its nest over the surface of the Palmyra leaves.

Cuckoo was known as the harbinger of the spring. English winter was too severe for it and so it sought its home in winter in the southern warm climate and came back to England with the advent of the spring. It was supposed that the Indian cuckoo left its eggs in the nest of the common crow. The crow pheasant made a loud note. Coppersmith was a small bird having a special tendency to sit on the topmost branch of a tree.

The learned lecturer also showed fine specimens of Ahmadabads, wagtails, Indian peter, blue jay, night jar, owls, vulture, kites, hawks, water-cocks, doves and snipes.

situated near the head. The snakes had four rows of teeth in the upper jaw and two rows in the lower jaw. (The lecturer brought a model of the head of a snake with its mouth wide open showing the rows of teeth, poisonous fangs, tongue and the poisonous gland of the snake and gave a clear description of the way in which a snake made itself ready to strike at an object and the mode by which the poison would get into the body of the object bitten by snake). In an ordinary snake the teeth were very small.

The snake used its teeth to hold its prey and no snake used its teeth for mastication. The tongue was split into two thin halves at the end. The snake had the habit of stretching out its tongue. The tongue was useful as an organ of touch. The poisonous fangs were situated on the upper jaw, one on each side of the jaw. The poisonous gland was a bag containing some yellowish poisonous liquid.

The Cobra was the most deadly snake known. It was responsible for the great mortality by snake bite in India. Its very appearance was terrible. It was found in all parts of India. The cobra had the special power of broadening its neck and raising its head to a great height. That was due to the action of the special muscles. The cobra had a spectacle mark over its head. It was an extremely dangerous animal.

Russel's Viper was the name of another poisonous kind of snake. It was very commonly found in the outskirts of Madras.

When a man was bitten by a cobra he showed symptoms of paralysis. Muscles of his body failed to act. And the man was made quite incapable of breathing and as a consequence he died. But the action of the bite of the Russel's Viper was not on the nervous system as in the case of the cobra bite but directly on the blood system. When a person was bitten by the Russel's Viper there was a disastrous effect produced on the circulating system. The person

either vomitted blood or lost blood by some other means.

Echis Carinata or the "Churattai pambu" was also a poisonous kind of snake.

The lecturer observed that it was not a possible business to lay down any hard and fast rule as to how long would it take for a person to die of the bite of a particular kind of snake. It depended on three things mainly: (1) The quantity of poison injected into the system by the bite of the snake; (2) The mode by which the person was bitten by the snake, viz., whether the poisonous fangs of the snake made a mere scratch on the surface of the body or whether they went deep into the skin, and (3) The resisting power of the bodily system of the person bitten by the snake.

The sea snakes were also poisonous, though the fishermen in the beach generally held them by their hands and threw them out when they were caught in their net. They were found even on the Madras coast. They ate the smaller fish. They were said to be eight times more poisonous than the cobra.

Among the harmless kinds of snakes the green snake was one. It lived in the bushes of the plants or among the thick foliage of the trees. It was not seen because of its likeness to the green leaves of the trees and the bushes. Lizards and birds became an easy prey to the green snake. It was familiarly known as கண்ணாம்பு in Tamil, since it always aimed at the eyes of persons. "Saraipambu" was an inoffensive kind of snake. It grew up to 9 ft. in length. There was a popular belief that it was the male cobra though there was nothing common between them. It lived upon rats and chickens. Tree snakes were found among the trees. There was a story current in Southern India from Ganjam in the North to Tinnevely in the South that the tree snake after it bit a person got on a tree and came down only after the smoke of his body burning rose up in the air.

The other legend about the snakes was that a cobra had a brilliant gem on its head.

Water snakes were of many kinds. The popular belief about them was that they were not poisonous when they were in water and poisonous when they got ashore. The earth snake always lived under the earth. It was popularly known as மண் பாம்பு. It was also called இருதலை விரியன் owing to the common belief that it had two heads. There was also a curious belief prevalent about it, viz., if a person touched it he would get leprosy.

Fourth Lecture.

REPTILES.

The last lecture was delivered by Dr. Henderson on the Reptiles. As usual the lecture was fully illustrated by the specimens of the animals collected in the Museum. The crocodiles were of three kinds; only two of them were found in the neighbourhood of Madras. They grew up to a large size. Some of them were 20 feet long. They were generally found in large rivers and streams and in the seas.

Turtles and tortoises were generally found in all places in Madras. There were three varieties of them. Lizards varied greatly in their size. There was a popular belief that the lizards by their cry forbode something that was to take place in the future. It was also considered an animal whose fall over the human body indicated some coming event and the meaning of such a fall was interpreted by those well-versed in the lizard shastras (பல்லி சாஸ்திரம்.)

The Arani always hid itself into the holes of the earth. It was considered by some people to carry poison in its tongue. The learned lecturer showed specimens of blood-suckers and Udumbus.

Various kinds of frogs were then shown and their gradual growth was illustrated by means of a chart. Toads were considered to be animals of bad repute.

All the lectures were very interesting and instructive. The public of Madras should feel

highly thankful to Dr. Henderson who took pains to deliver those lectures with a lucidity of expression and wealth of details that were at once charming and appealing.

THE MADRAS STUDENTS' ADVISORY COMMITTEE.

Secretary's Report.

25th October 1912 to 26th October 1913.

PART I.—ACCOUNT OF DEALINGS WITH INDIVIDUALS SEEKING INFORMATION AND ADVICE AS TO STUDY IN THE UNITED KINGDOM.

The year under review has seen a very noticeable increase in the number of applications to this Committee. Whereas in the previous two years advice or information was sought by or on behalf of about 120 individuals, in 1912-13 the number has again gone up again to 211, which is practically the same as the figure 210 for 1909-10, when the first wide advertisement and novelty of the Committee's existence and the desire on the part of many to obtain admission at the Inns of Court before the regulations became more stringent combined to attract a large number of inquirers. The volume of correspondence has been mentioned in previous reports as an indication of the Committee's activity. The figures do not appear to have been compiled on a uniform system. In 1909-10, over 420 communications of all sorts, by letter, post-card, or telegram, were received: this number fell to 280 for the next year, while last year, exclusive of correspondence with the Educational Adviser, persons outside the Presidency and authorities in the Presidency, the figure for letters alone was 236. On the limited basis of last year's statistics, the number for this year is about 300, but taking all correspondence, except printed or purely circular matter, about 460 letters, post-cards or telegrams have been received in the year under review and, not counting the issue of circulars, and notices, about 500 have been

despatched. The number of interviews was 111 in 1909-10, 64 in 1910-11, 61 in 1911-12 and 69 in 1912-13.

The third rough test of the Committee's work consists in the number of students about whose going abroad its Secretary has been consulted. There is always great uncertainty in this matter. A number of consultants go without indicating their departure, and occasionally those who have notified an exact date and route are detained at the last moment and give no notice of their change of plans. It is fairly certain, however, that 31 have gone this year as compared with 34 in 1909-10, 15 in 1910-11 and 37 last year. It must be noted, however, that in last year's total were included 13 of whose departure the Secretary heard through indirect sources other than official consultation, while this year more than half-a-dozen of such have been excluded.

It would be interesting to ascertain what proportion of those who go to Europe take advantage of the machinery Government has provided to facilitate their objects as students. It is impossible, however, to know this. There are undoubtedly some who, because they imagine they might lose their independence of action by consulting this Committee, do not do so. Others go secretly against the wishes of their parents, and others simply thoughtlessly. It is believed very few, if any, are actually ignorant of this Committee's existence. If there are any such, the proposal of the Local Government to have local correspondents of the Committee in every first and second-grade college should go far to widen the scope of its work to its utmost limit. Prophecy is gratuitous, but it is fairly certain that the number of students who go to England each year will grow larger and as the Committee gains more and more confidence, it is to be expected that its work will rapidly increase.

Six of the consultants belonged to the spheres of other local committees and their applications were accordingly forwarded to those committees

for disposal. Seven applications were made in the first instance to the authorities in England and were subsequently dealt with by this Committee. There were also two other rather peculiar cases which should be noted: one is that of a remarkable mathematician in this Presidency, whose case was referred to this Committee by Mr. Mallet and by them brought to the attention of the University. He has subsequently been granted a Research Scholarship. The other is of a medical man whose enquiry to the India Office about medical exhibitions and prizes in England met with a sympathetic reply which was forwarded to him through the Secretary. Correspondence with regard to students already in England is an increasing feature in the Committee's work. There were eight such cases in the year under review, of which three were by relations in this country. In one case, the student had gone without previous consultation and general advice was sought as to his career. He was advised to consult Mr. Mallet. In one of the other two, money had to be sent, in the other whereabouts had to be ascertained. Both were satisfactorily concluded. With regard to the five cases in which references were made to this Committee by Mr. Mallet or Mr. Arnold, a question as to enrolment as a Madras Advocate arose in one, in another there had been delays and irregularities in remittances, while in the remaining three testimonials as to the students' fitness for admission to an Inn of Court had to be obtained and forwarded. This last mentioned item of business has become a source of considerable additional work since the Bar Regulations have been so modified as to require a certificate of character from the Secretary for Indian Students. He has to rely on the information that the provincial committees can obtain and a large part of the increased correspondence of this year has been on this account.

Of the castes of the 31 students who have gone, one is a Muhammadan, 4 (P 5) are Native

Christians and 4 (P 3) are Anglo-Indians, while the remainder are Hindus. Educational qualifications seem to be of a moderately high standard. Of those with some technical knowledge may be mentioned six, a doctor, two others who had been for some time at the Hyderabad Medical School, a B.A., B.L., a second-grade pleader (F.A.) of some years' standing, and a young man who had been born and bred in the leather industry and had been granted a Government scholarship in the subject. Of the remaining 25, six are B.A.'s (one having also passed his M.A.) six have passed various groups of the Intermediate, 10 have passed either the Matriculation or European High School Examination or hold School-leaving certificates, one was in the 6th form of his school, while the remnant of two did not give their educational record. The Bar is still the great attraction. About half the total number proposed to join an Inn of Court, whether that was the sole aim of their going or not. Five were going to study medicine at Edinburgh and one at Durham. Engineering attracted four. Three have gone to obtain general science degrees. Two go to Edinburgh for Forestry. One student, a Tata scholar, is going to read Mathematics at Cambridge and then to try for the Indian Civil Service. A number of others also spoke of the Indian Civil Service as a vague possibility. The leather industry has already been mentioned. Two or three proposed courses at the London School of Economics.

Very few had definitely obtained admission at a University before their departure. Two, however, had done so at Cambridge, one at Oxford, one at Durham and two at University College, London. Ten proposed Edinburgh, four London as external students. The remainder had no fixed ideas. By way of general comment on those figures, it may be remarked that there is generally even among those who actually set out to England far too vague a notion as to the purpose of their going.—The idea is still common that there is some magic in the air of England

and Scotland, which can transfigure the otherwise second-rate man into a success, and that by some mysterious process that requires no forethought or planning. Part of the business of this Committee is and will be for years to come to combat this false idea. There are numbers to whom a training in Europe is really worth while, but it is incumbent on students and their parents to think out beforehand very carefully (a) the purpose of their going, (b) the best means of attaining that purpose.

PART II.—GENERAL PROGRESS.

On the 23rd November 1912, Mr. Davies, the permanent Secretary, who had been out of India on nine months' leave, took over charge again from Mr. K. Ramunni Menon who had been appointed to act during his absence.

A new edition of the handbook came out early in 1913 and copies of it have been supplied to the members of the Committee.

There have been the usual two meetings of the Committee held on the 8th March 1913 and the 16th October 1913.

Only one circular has been issued this year—No. 17—on the certificates required for seeking admission at an Inn of Court.

The introduction to the handbook now covers practically the whole ground for which this Committee's circulars were originally issued piecemeal, and on one or two matters, such as guardianship, Mr. Mallet has printed and sent to this Committee circulars of his own. Our local circulars have therefore become largely obsolete, and in future it is anticipated very few will be required, except for purely temporary purposes.

Other provincial committees have continued to exchange with this Committee copies of proceedings of their meetings, etc.

This Committee continues to be well supplied with the latest editions of the calendars, syllabuses and prospectuses of the various educa-

tional establishments in the United Kingdom, and the Secretary's library is frequently consulted by intending students and those interested in them.

The reports of the meetings of the 8th March and the 16th October record all other important business not specially recorded here.

8th March 1913.

THE EIGHTH MEETING OF THE COMMITTEE WAS HELD AT THE SENATE HOUSE AT 8-30 A.M.

PRESENT:—The Vice-Chancellor of the University, *President*; the Rev. G. Pittendrigh, Mr. F. S. Davies, Mr. K. Narayana Rao, Mr. S. E. Ranganathan, Dr. A. W. Bishop, Mr. K. Ramunni Menon, *Members*; and Mr. Arthur Davies, *Secretary*.

Read letters from the Residents in Hyderabad and Mysore and from Mr. Vengail K. Raman Nayanar regretting their inability to attend.

Read and Recorded—

Letter from Mr. T. W. Arnold, dated 11th October 1912, stating that future correspondence will be with Mr. Mallet.

Reply to the above, dated 7th November 1912.

Letter from Mr. C. E. Mallet, dated 22nd October 1912, regarding the new arrangements and making suggestions on various points.

Reply to the above dated 11th December 1912.

Letter from Mr. C. E. Mallet, dated 30th October 1912, regarding medical courses in England.

Letter from Mr. C. E. Mallet, dated 8th January 1913, regarding Mr. C. V. Chandrasekharan.

Read letter from Mr. C. E. Mallet, dated 15th January 1913, regarding the amended Bar Regulations and the appointment of local advisers at Oxford, Cambridge, Manchester, Glasgow and Edinburgh.

Circular No. XVII regarding admission to the Bar approved,

Read letter from Mr. C. E. Mallet, dated 3rd February 1913, regarding Mr. S. Ramannjam.—*Resolved* that copy of the same be sent to the University Board of Studies for their information.

Read and recorded the following Government Orders:—

No. 887, Educational, dated 5th October 1912, recording report on the management of No. 21, Cromwell Road.

No. 966, Educational, dated 4th November 1912, regarding the organization for the care of Indian students in England.

No. 1034, Educational, dated 23rd November 1912, recording report on the work of this Committee for the year ending 24th October 1912.

Read and recorded.—

Correspondence with Dr. Francis regarding Anglo-Indian students in Great Britain—and letter by the Secretary in "The Anglo-Indian" of 15th January 1913.

Read and recorded the following Proceedings of the Director of Public Instruction:—

No. 301, dated 11th January 1913, regarding Government scholarships in Sanskrit and Arabic.

No. 1341, dated 19th February 1913, enclosing G.O. No. 62, Educational, dated 28th January 1913, regarding a scholarship to be awarded for the study of leather industry.

16th October 1913.

THE NINTH MEETING OF THE COMMITTEE WAS HELD AT THE SENATE HOUSE AT 5-30 P.M.

PRESENT:—The Vice-Chancellor of the University, *President*; The Raja of Kollengode, Mr. Vengail Kunhi Raman Nayanar, Dr. A. W. Bishop, Mr. F. S. Davies, Mr. K. Ramunni Menon, Mr. S. E. Ranganathan, *Members*; and Mr. Arthur Davies, *Secretary*.

Read letters from the Residents in Hyderabad and Mysore regretting their inability to attend,

Read and recorded the following letters from the Secretary for Indian Students at the India Office:—

(1) Letter, dated 18th February 1913, regarding the appointment of Mr. Bamford as Adviser in Glasgow, the question of guardianship at Oxford and Cambridge and the recent modifications in the Regulations of the Inns of Court.

(2) Letter, dated 20th March 1913, regarding the medical course at Edinburgh.

(3) Letters, dated 3rd April 1913 and 25th April 1913, regarding the appointment of Mr. James Miller as Adviser in Edinburgh.

(4) Letters, dated 11th April 1913, 25th April 1913 and 30th May 1913, giving information about Madras students who went to England in 1912.

(5) Letter, dated 2nd May 1913, sending 200 circulars on Oxford and Cambridge and 50 circulars on the Bar.

(6) Letter, dated 9th June 1913, sending 500 copies of "Notes and Suggestions" for general information.

(7) Letters, dated 13th June 1913 and 28th July 1913, regarding the guardianship of students other than those at Oxford or Cambridge and sending 25 copies of the rules regarding the same.

Reported that 100 more copies were received in October.

(8) Letter, dated 9th July 1913, stating that the Gilchrist Trust has some years ago withdrawn the scholarships awarded to Indian students.

(9) Letter, dated 15th August 1913, sending seven copies of report on 21, Cromwell Road.

Reported that five of these were sent for publication in the five principal daily papers of Madras.

(10) Letter, dated 18th September 1913, regarding the London College of Municipal and Sanitary Engineering.

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(11) Letter, dated 24th September 1913, regarding a modification in the Indian Forest Service Rules, the admission of "junior students" at Oxford and the examinations admitting to an Inn of Court.

(12) Letter, dated 24th September 1913, asking whether the Committee would be willing to be consulted by students inquiring about examinations held in India by the City and Guilds of London Institute.

Resolved that this be answered in the affirmative.

Read and recorded correspondence with regard to Mr. S. Ramanujam.

Read and recorded letter, dated 28th February 1913, from Mr. T. W. Arnold sending 75 copies of a booklet on 21, Cromwell Road.

Read and recorded the following Government Orders:—

G. O. No. 219, Educational, dated 15th March 1913, regarding the organization for the care of Indian students in England.

G. O. Mis. No. 319, dated 17th April 1913, enclosing pamphlet on 21, Cromwell Road.

G. O. No. 253, Educational, dated 25th March 1913, authorizing direct telegraph to the Secretary for Indian Students and other Advisers in the United Kingdom.

G. O. No. 423, Educational, dated 9th May 1913, regarding facilities for certain State Technical scholars in the United States.

G. O. No. 427, Educational, dated 12th May 1913, regarding the extension of certain State Technical scholarships to a period of three years.

Read and recorded correspondence with the Director of Public Instruction regarding the steps that should be taken to strengthen and develop the work of this Committee.

Read Memorandum No. 2559-1, Educational, dated 25th September 1913, from the Under-Secretary to the Madras Government.

Resolved that the Committee sees no objection to the adoption of the course proposed and that the Secretary be instructed to request Government to publish information about the Committee's purposes and work in the *Fort St. George Gazette* and the local Gazette of the Presidency.

Resolved on the motion of Dr. Bishop, seconded by Mr. V. Kushi Raman Nayanar, that the Committee is of opinion that, in view of the nature and amount of work now falling on the Secretary, the honoraria paid to him are altogether inadequate.

Read and recorded Secretary's report of progress from the 25th October 1912 up to date.

Resolved that the Secretary's report be printed and circulated

EDUCATIONAL TOPICS.

THE PUNJAB UNIVERSITY.

The Punjab University has made a very welcome addition to its avenues of work, by the establishment of a new institution to watch over the interests of the graduates who pass out of its portals. It has long been recognised at least in some of the Universities of the West, that the duties of a University for its alumni do not cease with the conferring of a degree—their advancement in life must be a matter of serious concern for them. The University of Cambridge has its Appointments Board, to serve as a bureau of registration for the graduates of the University, to help them to find situations consistent with their academical accomplishments. The Punjab University has followed in its wake, and the experiment is particularly praiseworthy in a country where the need for such an institution is very pressing indeed. Nothing has caused graver anxiety to the statesmen interested in the moral and the material advancement of India, than the question of the employment of the educated classes. It is expressing itself in economic as

well as in political discontent and there cannot be a more laudable aim for an educational agency, than the enabling of its students, to play the part in life, for which they have been trained under its auspices. We hope the Imperial and Provincial Governments in India will utilise the services of bodies like the new Punjab Appointments Board, in the selection of candidates for public offices, as the University is the best aid to the Government in such matters. Is it too much to expect the Madras University to enter upon such a step?

THE TRIVANDRUM COLLEGE.

The authorities controlling education in the State of Travancore deserve to be heartily congratulated on their latest accomplishment in the department. The Professors in the Maharaja's College, Trivandrum, it has been ordered, are all to be graded on the same pay, irrespective of their nationality. It is hardly necessary for us to point out that is but the barest justice to equalise the emoluments of persons turning out the same standard and quality of work. Nothing is more unfair than the institution of a colour-bar in the Temple of the Muses. Academical distinction and scholarship are considerations which ought to be supreme in the selection of persons for educational offices. We have no hesitation in saying that the wise step that has been taken by the Travancore Government will set right a long-standing grievance which seems to be a feature not only of service under the British Government but, of all Native States and private educational agencies in India. We have known Indian committees of management, applying this provoking principle of colour distinction with more violent zeal than even the Government or the Foreign Missions in India, and we sincerely hope the recent decision of the Travancore Government will open their eyes to the flagrant injustice of which they have been guilty all these years. It would not be worth while laying such special

emphasises on the point, but for the fact that the subject involves much graver issues than the addition of material emoluments to a few individuals. It affects the whole question of the efficiency of the Indian agency taking part in educational work in this country. The best possible persons from among the graduates of Indian Universities cannot be secured so long as this stigma is not removed.

THE ENSUING ELECTION TO THE SYNDICATE.

The vacancy on the Syndicate of the Madras University caused by the death of the late Justice Sundara Iyer has resulted in quite a scramble for the place. But we are glad to see an educationist of considerable eminence is a candidate for the office. We have long been of opinion that the Syndicate is no place for the lawyer who professes to take an interest in educational affairs, often that he may merely fill a larger measure of attention in public life. Educational experience does not come in at all with the conducting of cases in the High Court, to the satisfaction of the client or the enrichment of the purse. Even the corridors of that august Temple of Justice hold no magic power, to transform the busy lawyer into the educational expert, to offer advice on University matters and to control the destinies of the numerous colleges that constitute the University of Madras. We have therefore no doubt that the Fellows of the University will accord their hearty support to Principal P. T. Srinivasa Iyengar of Vizagapatam who has come forward to offer to the executive body of the University, his long and valuable experience as an educationist. His scholarship and intellectual ability more than entitle him to such a distinction. And let the Fellows realise also he will represent the large class of second-grade colleges in the University which have till now remained without any effective voice in the Madras University. Educationists at least have got to save their

prestige in the matter and we hope they will not betray the interests of their own profession.

THE AMATEUR IN THE UNIVERSITY.

We have not heard the last of the amateur desiring to regulate the affairs of the Madras University. We understand an attempt is being made in some quarters to foist upon the University a permanent committee of the Senate, consisting no doubt of a number of laymen who will want to offer their ripe advice on details of University education, presuming to be much better authorities than even those engaged in the direct work of education. As at present constituted the University has all the facilities for getting the needed expert advice. There are a number of representative educationists on the Syndicate who can be trusted with the management of all the details connected with educational work. There are the Boards of Studies again which are ever ready to offer guidance with regard to every branch of knowledge dealt with by the University. If the Senate stood in need of some of the advance educational experience of the West, it is open for it to impart a distinguished educational authority like Sir Alfred Hopkinson, who is now helping the University of Bombay in its work of re-organization. The only ground therefore on which one can countenance this attempt to start a new committee of the Senate, is out of a desire to take the privilege of regulating University work from the hands of the educationists who are competent to do it, and place it in the hands of the amateurs who want to dabble in all branches of public life and work.

THE YOUNG MEN'S INDIAN ASSOCIATION.

Educationists in Madras cannot but view with grave disapproval the attempts made in some quarters to start a new organisation for the young men in the colleges without taking any of the

Professors into confidence! A few preliminary meetings have been held and there seems to be no excuse for the strange circumstance that the organisers have not thought it necessary to invite any of the educationists to take part in the deliberations, in spite of the fact that the *Young Men's Indian Association* is intended for the moral and physical welfare of the hundreds of students in the Madras Colleges. His Excellency Lord Pentland has exhibited great wisdom and statesmanship in declining to invest the movement with the weight of his name on the ground that it has not the support of any members of the teaching profession in Madras. Did the many busy bodies who motored about the streets of Madras requesting people to join this new organisation, consider the educationists not important enough to be consulted on such matters? Did they expect the teachers to follow like dumb driven cattle to do their bidding, when they had started the Association? We hope the organisers have now learnt the wholesome lesson, at the cost of losing H. E. the Governor's sympathy and support, that they cannot afford to ignore the Professors in the Madras Colleges at least in matters concerning the interests of the students who are in their charge. They will not allow the young men for whose culture they are responsible to drift into bodies with whose workings they are not familiar, and where they cannot guarantee an atmosphere of the most wholesome influences. We need hardly remind the organisers that the Principals of Colleges can prohibit their students from joining institutions of which they may get to entertain any sort of suspicion.

A PROFESSOR.

EDUCATION IN THE MAGAZINES.

(INDIAN)

Lord Hardinge's Interest in Education.

The following is a portion of His Excellency the Viceroy's speech in reply to the address from the President and members of St. John's College, Agra:—

"I think it must be generally known by this time how keenly I am interested in the question of the education of young India. I have had to deal with the subject in many speeches and the money that has been poured out by the Government of India during the past few years for the improvement and expansion of educational facilities, is sufficient testimony to the importance attached to this matter by my Government. I must, however, confess that sometimes I have a qualm of doubt as to whether this expenditure is being directed along the most useful channels for not only we sometimes see the products of our schools and Universities stranded without suitable occupation when their days of tutelage are over, but I also feel that in some cases the energies of teaching institutions are concentrated upon the idea of passing their boys through certain examinations while such important matters as the character of their students and the tone of their environment, not to speak of their physical well-being, do not receive all the attention they demand. I am not here to decry any efforts that are made to secure for young men in their early days such qualifications as are necessary if they are to get a good start in life, though I do think it is one of the most difficult problems before India to-day so to adjust the general life of the country that suitable careers may be open to the multitude of young men who are annually turned out to find no occupation appropriate to their aspirations and qualifications, and so to bend its educational systems that the education given may be that best calculated to fit them for their various careers. This is a problem that besets us in England as well as in India. I do not know how far the difficulties of the problem have forced themselves upon your notice, but I believe that your commercial department is directly tackling the important question of multiplying openings and careers for your students, and I know that the other question of the character and well-being of your students occupies a most prominent place in your attention. You have realised the vital importance of the residential side of college life, the need for thorough supervision and the value of the cultiva-

tion of close and friendly relations with your boys. The inculcation of ideals of social service has been your practice for years, and from all I can hear your labours have been attended with the happiest results.

Dr. J. J. Sunderland on Ruskin and His Times.

Dr. Sunderland of America delivered an interesting speech at the Prarthana Samaj Hall, on the 3rd instant under the presidency of Sir Narayan Chandavarkar. He said that Ruskin died in the year 1900 when he was in London. Ruskin was a very impressive spectacle and the life-history of the great man proved him to belong not to any particular country but to the whole world. His was a mission of love and in all the works of art that he executed and in the several writings that he published, his one aim was social amelioration. He was the last of the group of the brilliant persons who graced the reign of Queen Victoria. Ruskin was a genius the like of whom we find at intervals of several centuries. He was brilliant. His thoughts were fresh, original and keen. He possessed a knowledge and love of Nature in the highest degree and played the part of a teacher while infusing new moral force into the nation. The philosophy of life that he preached and practised singularly marked him out as a person whose love for humanity was intense and whose aim and ambition in life was to rescue the poor out of the hands of poverty. He never wanted to find men in grief. He was an artist and his conviction was that art was no surface drawing but an expansion of life itself and as such the success of art depended upon making life noble and successful. He wrote a number of books on painting, architecture, ethics, social betterment and political economy and in all these we mark invariably one undercurrent of love for humanity. He strove to popularise art with a soul in it. He wanted a picture to speak out thought, create emotion and appeal to feeling. A beautiful soul in the art was possible only when noble characters could be depicted and unless the high standard of morality was attained there could not be found noble designs for the painter's brush. Ruskin was misunderstood and misinterpreted and was considered to be an idealistic dreamer. Yet, he stood firm: he did not turn back and eventually compelled the Englishman to hear him, and believe him too. Ruskin emerged from unpopularity more honored and more loved than ever. He was believed to have been actuated by the best of motives in placing a high ideal before his

countrymen. His views on social economics were based not on the selfish and therefore commonplace questions of supply and demand but on ideas of sacrifice, fellow-feeling and human happiness. They aimed at making the science itself more humane and more useful. He suggested that it should be re-written on divine lines. He employed the large fortune of two hundred thousand pounds that he inherited in alleviating the sufferings of his fellow-countrymen. He incessantly worked with a view to make the state and the aristocracy realise that every one, however low and humble was entitled to pure air, open sunshine and satisfactory sanitation. He advocated the establishment of schools all over the country for imparting real education which could bring joy out of life. He wanted his brethren to wake up to their sense of duty in providing national education, workshops and old-age pension. His annual savings out of the income of about four thousand pounds, derived from the sale of books were utilised in bettering the condition of the poor and the needy. When people saw in him a practical unselfish soul they began to love and revere him. He was thus instrumental in regulating the life of the English people. He popularised the idea that there was no greater wealth than life, which was a source of joy, love and admiration. The most important view to be taken was not what a man can handle but what a man is. Ruskin thus has sown seeds of love which in the near future bid fair to grow into mighty trees.

(FOREIGN.)

Dr. George Brandes on Shakespeare.

The Personality in his Writings.

Dr. George Brandes delivered a public lecture on "Shakespeare" at the Caxton Hall, London, on November 25. Mr. Edmund Gosse, who presided over a large and distinguished audience, introduced Dr. Brandes as "the acknowledged leader of cosmopolitan criticism."

Dr. Brandes, who was given a very hearty reception said that Shakespeare was careless of his fame. He seemed never to have sanctioned the texts which we possessed, but, given the possession of 45 important works by any man, it was only our fault if we knew nothing about him. His imagination was a plant which attracted nourishment from the only soil in which it thrived—namely, the observations and experiences of the creative spirit. The attempt to find him in his works was not hopeless, but it

was a rock on which many had stranded. We were forced to read the poet with our present ideas and modern sentiments; and there was great danger of forgetting that Shakespeare wrote in the 16th century and knew nothing of our modern science and philosophy. Instead of making ourselves contemporary with Shakespeare for the purpose of understanding him, we made him into our contemporary, and therefore misunderstood him. It was likewise somewhat preposterous to look at Shakespeare's villains with the eyes of modern criminologists. The criminal was for the modern criminologist an enemy of society; we did not take into account that for Shakespeare the notion of society did not exist. As Shakespeare, moreover, was not written to be read, but to be played, we had no use for any logical *finesse* which could not be understood at a single representation. He, therefore, depended much less on the straight connection of a piece than on the striking effect of its separate scenes. Shakespeare did not write only to give expression to his own mental state, but first of all to captivate his audience, and give them a dish which pleased them. The temptation to read modern ideas into Shakespeare had shown itself especially in the case of certain characters in his plays, like Shylock. There was no doubt that Shakespeare's own Shylock was a personality for whom disgust was naturally tempered by laughableness. Yet in spite of everything, he had come to appear, in the eyes of later times, as a sort of tragic symbol of the vindictive vengefulness of an oppressed race. The same tendency could be seen in the modern interpretation of the characters of Don Quixote, and the *Missanthrope* of Molière. The critics of his anachronisms forgot that genius, far from being as it was the custom to call it 50 years ago, the representation of its age, was that power which moved against time, creating new times.

SHAKESPEARE AND DEMOCRACY.

Discussing Shakespeare's personality through the medium of his plays, Dr. Brandes said that, in the fanatic period in which he wrote, he never joined a party in religious matters, never showed the smallest ill-will towards conquered Catholicism, and effaced the ill-will in the texts which he adopted. He used as the basis of his "King John" an old Protestant drama, directed against Catholicism, and full of rude hatred and coarse ridicule of monks. He suppressed the religious controversy and retained only the political usurpation of the Roman Church. His drama was addressed primarily to the best ele-

ments of the public and his aristocratic method of regarding the course of history must have been acquired from the young aristocrats who were his patrons. His heroes were princes and barons of England; it was always they in his eyes who made history. It was Henry V, who won the day at Agincourt; yet the whole issue of this war depended upon the foot soldiers. He could not understand that it was the rise of the middle classes and their spirit of enterprise which constituted the strength of England under Elizabeth. This explained why not a single phrase in *King John* referred to the signing of Magna Charta. Shakespeare had a physical aversion from the atmosphere of the people. Their struggles were ridiculous to him. Their true characteristics, in his eyes, were susceptibility to flattery and ingratitude towards their benefactors. Humanity in general was to Shakespeare not millions of individuals, but a few great entities amidst millions of non-entities. He saw clearly that the existence of these few illustrious men made all that life was worth living for Shakespeare's sonnets seemed to be the best source of acquaintance with his personal feelings. He hated women's painted faces and false hair; he disliked jealous wives and effeminate men, Puritans, and pretensions of all kinds.

THE AUTHORSHIP OF THE PLAYS.

For more than half a century Shakespeare had been marked out as posing as the author of works of which he had not created a single one but the master of which was Lord Bacon. Behind this idea lay the disbelief that a man of Shakespeare's deficient schooling had been able to manifest the knowledge which his dramas evinced. It was not the excellence of his school knowledge which made a poet of genius. The idea that Bacon wrote Shakespeare could only be entertained by those who knew nothing about either writer; some were half-educated, some uneducated and lunatics. Dr. Brandes proceeded to criticize the criticisms made upon Shakespeare by Tolstoy, Mr. Bernard Shaw, and Mr. Frank Harris, and said:—The latest English essay dwells upon his weakness, his vanity and snobbery, and ends with the sentence that it is impossible to honour Shakespeare or to worship him. I do the impossible. And I do it without shame. I see in all these judgments a testimony of the unwillingness of human mind to bow itself to the truly great. His contemporaries were unable to appreciate his greatness, but later times should remedy that fault. He had human weakness but we know far too little of him to define them

more nearly. It was no weakness in him that he was a poet. The only thing we really know is his genius, which still astonishes the world, and which he lavished so prodigally that he did not even father his productions into books, but left half of his plays unprinted. If one should name mankind's greatest names, and there should be no more than 12, it would be impossible to pass over the name of Shakespeare.

The Teacher's Position By the Headmaster of Eton.

The London Head Teachers' Association gave a reception on November 21, at the London University. The headmaster of Eton gave an address in the Jehangier Hall, on 'The Position of the English Teacher.'

He did not suppose they would be wrong in thinking that there was enough to occupy the finest power of mind and character in guiding the minds of the young, and a reflection of that sort always led him to feel that whatever kind of work schoolmasters were doing and however much it might differ outwardly from other work done in the profession, there was a wonderful bond of unity between them all—unity of effort towards the same object, in which they were encompassed by very much the same difficulties and occupied by very much the same hopes. He thought the similarity between different kinds of schools was not always appreciated. They were all sometimes brought face to face with failure on such a large scale that it was enough to make them wonder whether they could see the fruit of their labour; but they ought to remember that their labour could not be in vain if it had been wrought in a spirit of faith and confidence, according to the best guidance that they could seek and in obedience to the deepest truths that they knew. He was coming to believe that the time when the work done was done under the greatest sense of difficulty—when the health was not good, when the children seemed restless—was the moment when the real teacher did his best work. He was not speaking simply of intellectual training. In the training of character the teacher did more when the difficulties were acute than he could ever do when things were easy.

THE ORIGINALITY OF DUNCES.

He supposed that they had all been brought to the conclusion in the present day that in teaching classes of any size at all they were facing a task to which only a limited reward intellectually

could be promised. If they had a class of 20 or 30, or 50 or 60, they all knew they had only a small area of common thought and knowledge on which to play, and the moment they strayed outside they were leaving some of the children in the dark. If some were particularly slow and some particularly quick, that common area was extraordinarily small; and he sometimes thought one had to teach a class where there was no common area at all. He once learned a great deal on these matters from gentlemen who had given years of his life to the endeavour to teach dunces, and who made the remarkable statement that he had kept himself young by learning how a dunce's mind worked. He said:—'The children who have taught me most are the dunces, because every dunce is original.'

They rarely gave individual teaching nowadays, but there was some solace in the thought that a class provided a kind of stimulus not to be obtained with a single child, and having something to do, he thought, with the fact that in all schools there was a kind of social training going on. Something in the school was teaching the boys and girls the most valuable things in life—how to get on with their equals, how to give and take, how to learn that they must not always insist on their rights—at least not at once; in time, perhaps. All day schools were handicapped in this matter because the social life could hardly be as continuous and vivid as in a boarding school, but any good head teacher would strive his utmost to make the conditions such as to encourage the social feeling among the pupils, because he was there doing a work that was bound to be permanent in the lives of the children.

THE POSSIBILITIES OF TRAINING.

He did not think they need be feverishly anxious, as teachers, whether their material conditions, which must be looked after, were being forwarded in the right way. There was no doubt that the State as a whole had taken responsibility in a way which might be productive of a certain amount of inconvenience, but which promised, he thought, to rectify some things which they considered years ago were almost irremediable. Of course their hope was that there would be a grand effort made towards the training of teachers in secondary schools, who had been for years remarkably wanting in training. He had been for many years most interested in that subject but the sanest people in the early days of the movement were those who warned them against expecting an enormous difference. The best train-

ing in the world did not do so much as five or six years of experience for a man who had an open mind and he was not quite certain that he looked with confidence upon the results of training, however good, of teachers who had shut minds—and there was a good number of those about. If they were to trust the training which he had no doubt was going to be provided very soon to the extent of supposing that it would turn bad teachers into good in the course of one year, they would make a colossal mistake. At the same time, he looked to it to prevent some of the worst evils they had to combat. There were things done in the profession still which were nothing less than heartless deceptions of the public-schools opened by people who had no right to teach anybody. There must be some precautions taken to prevent those people exploiting a credulous public.

THE UNIVERSITIES.

THE MADRAS UNIVERSITY.

Appointment of University Professorships.

The Syndicate of the Madras University invites applications for the following Professorships in the University:—

(1) A University Professorship of Dravidian Philology.

(2) A University of Professorship of Comparative Philology, with special reference to Sanskrit and the Sanskritic languages of Southern India including Urdu.

These appointments will be each for a term of five years, the term being renewable, on a salary of Rs. 9,000 (£600) each *per annum*. These two Professors may be required to deliver courses of lectures, and any work calculated to further the advanced study of the languages with which they are concerned will fall within the sphere of their legitimate duties.

All Professors will be required to devote their whole time to the duties of their offices, and not to absent themselves from their duties without the permission of the Syndicate.

Applications from candidates for the appointments should be sent in by March 1, 1914, addressed to the Registrar.

The selected candidates will be required to bind themselves by agreements, the details of which will be settled later.

The University will be prepared to pay each selected candidate from abroad a single first class passage to Madras.

Telugu Composition Committee.

Messrs. K. Subba Reddi, B.A., Bar-at-Law, Cudapah District, Mr. Kolachallam Sreenivasa Row and Mr. T. Sankara Lingam Pillai, B.A., B.L., of Bellary, and Mr. N. Kuppuswamiah, B.A. of Tirupati, have been added by the Syndicate to the Intermediate Telugu Composition Committee. Mr. Pillai is a Telugu and Sanskrit scholar.

CALCUTTA UNIVERSITY.

List of Tabulators.

The following gentlemen have been appointed Tabulators for the next Arts and Science Examinations of the Calcutta University:—

Matriculation, 1914.

1. Babu Haran Chandra Banerjee, M.A., B.L.
2. Babu Biraj Mohon Mazumdar, M.A., B.L.

Intermediate, 1914.

1. Rev. Dr. J. Watt, M.A., D.D.
2. Babu Satis Chandra Roy, M.A.

B. A. and B. Sc., 1914.

1. Prof. Jnan Chandra Ghosh, M.A.
2. Prof. J. N. Das Gupta, B.A. (Oxon).

A Paid Vice-Chancellor.

The *F. gales* learns that the Secretary of State has sanctioned the appointment of a paid Vice-Chancellor to the Calcutta University on a maximum salary of Rs. 3,500 a month. This means, says our contemporary, the complete officialisation of the University. And it expresses the hope that a strong protest will be entered against a measure 'which the educated opinion of Bengal condemns with unequivocal emphasis.' Our contemporary trusts that an appeal will be forwarded to the Secretary of State for its reconsideration. We wholly sympathise with the *Bengalee*. We have not seen it stated anywhere that the Senators of the Calcutta University are dissatisfied with the manner in which affairs are conducted by the Honorary Vice-Chancellor, or that they have gone up to the Government with a prayer for a paid Vice-Chancellor. Have the Government acted of their own motion? If this be so, why should they have? What is the place of the Senate in the economy of the University?

From where will the salary of the paid Vice-Chancellor come? Is it found very difficult to find a fit and worthy successor to the present learned and distinguished Vice-Chancellor? Has Sir Asutosh Mukharji expressed his inability to continue to fill the office which he adorns? We confess we cannot be enamoured of a system of University government under which the Government sends down an executive head to the University without the latter body having any voice in the affair.—*The Leader*.

TECHNICAL EDUCATION.

TYPEWRITER TOPICS.

THE REMINGTON.

The Remington No. 1 model has long been on the retired list so far as active service is concerned. Nevertheless, it continues to earn splendid publicity for the Remington cause. The Manchester School of Technology, the largest and best equipped technical school in the world, is now exhibiting one of the models, as are also the Leeds, Liverpool and Hull Museums.

When the Panama-Pacific International Exposition appointed the Remington Typewriter Company the sole distributors throughout the world of the forthcoming *de luxe* booklet of the Exposition, every one knew that it was an unusual commission to bestow on a business house. But the reasons were unusual. 645 Remington sales-rooms constitute the answer.

A MECHANISM BOOK:

THE L. C. SMITH & BROS. TYPEWRITER.

This booklet has been compiled at the special request of various candidates appearing for the Government Technical Examinations and for the use of others who handle L. C. Smith & Bros. Typewriter. A careful study of mechanism explained in this book would enable every candidate to satisfy the Examiners at the Practical and Oral Examination—Elementary, Intermediate and Advanced Grades. With the assistance of this booklet, any ordinary Typist would be able to keep his machine in efficient working order.

Copies are available at Messrs. Ramsay and Sons, Esplanade, Madras.

LORD ROSEBURY'S HINTS TO TECHNICAL STUDENTS.

The Earl of Rosebery, as Chancellor of Glasgow University, was present at the admission of

new associates of the Royal Technical College, Glasgow, which within the past year has been affiliated to the University.

Lord Rosebery, who had an enthusiastic reception from the students, said: "When I was invited here it was constantly reiterated that it was customary on this occasion for a distinguished stranger, I beg to emphasise these words particularly the adjective to deliver a very brief address to the students. I am not a distinguished stranger at all. I am not here in that capacity an elderly and retired gentleman whose speaking powers have become entirely rusted with disuse and whose speech, therefore, I do not think will exceed the limits, the lowest limits fixed by your chairman."

"As regards the avocations, professions, and handicrafts that you are going to pursue I will only venture to give you this piece of advice: Throw all your energy and pride into your craft. Perfect it and exalt by your devotion," said Lord Rosebery to the students. "By doing so you will indefinitely extend your own talents, and you will raise your whole conception of a life devoted to the profession which you have chosen. It is only by uniting these high ideals to the practice of life that any success under any circumstances can be attained. Just consider for a moment. If you regard your own avocation as a daily grind only meant to grind money out for your support it ceases to have any good influences on your life, and as your connection with it grows longer a certain repulsion grows up through your not having exalted it at the commencement of your career. Well, I confine myself to that one piece of advice."

"But even this enthusiasm is not without its danger, because a complete absorption in one particular avocation tends to sterilise the mind if it is not employed in other ways. Now here the University comes in. Here your connection with the University justifies me in saying a word or two on things which lie outside your immediate classes. Don't you think your affiliation with the University may call your attention to some of the studies which are pursued in that University? I am not for a moment professing that it is desirable that you should either attempt, or, indeed, in any way lay yourselves out for, the University degrees in arts and so forth. But for your own comfort and happiness I would urge you to have some literary solace outside your own immediate work that may divert and refresh your mind after you return to it."

Reviews and Notices.

ARTHUR JAMES BALFOUR: PASSAGES FROM HIS NON-POLITICAL SPEECHES AND WRITINGS, EDITED BY J. C. JENNINGS. (LONGMANS, GREEN & Co.). 1 Rs. 8 As.

The amateur has a place in the intellectual world. His treatment of subjects is more entertaining than that of the professed specialist and he must always appeal to a class of readers, who can assimilate ideas only in a diluted form. Even the serious student cannot afford to ignore him as he can refresh himself with his discourses—they tend to relieve the tension of his over-wrought mind. Messrs. Bryce and Augustine Birrell, Balfour and Roosevelt, Lord Curzon and Lord Rosebery, belong to a class of writers who command well-deserved popularity by virtue of this excellence. Messrs. Longmans Green & Co. have done well in bringing together within the short compass of a single volume specimens of Mr. Balfour's writings, dealing with a wide range of subjects. He is the most intellectual of the politicians of to-day who digress into a consideration of academical subjects, and he has said and written much which will appeal to the general student. The volume under review consists of numerous well-selected paragraphs arranged under different headings and will prove most useful for general study in our colleges. The necessity of presenting a variety of extracts has unfortunately prevented the Editor from including speeches *in extenso*, and there are passages in the book too brief to deserve separate existence. It has however thus gained incomprehensiveness of interest what it has lost in oratorical elaboration.

The volume is meant to be an annotated edition for the use of students and it is a matter for regret that literary allusions should not have been explained by the Editor—at least references should have been given to implied quotations to enable the student to enjoy them by looking them up. We will refer to a few examples taken at random. When Mr. Balfour says of Bacon that he "in Cowley's famous metaphor, looked from Pisgah over the promised land," it is not enough for the Editor to content himself with saying: "comparison with Moses, leading the Jews out of Egypt." The note under the word 'Pisgah' in an ordinary dictionary helps the student with this piece of information, but the allusion is not explained without a reference to the following lines from Cowley's *Ode to the Royal Society*:

Bacon, like Moses led us forth at last;
The barren wilderness he past,
Did on the very border stand
Of the blest promis'd land,
And from the mountains top of his exalted wit,
Saw us himself and shew'd us it.

What is the Editor for, if he will not look up this reference? When Mr. Balfour feels tempted "to vary the prayer of the poet," and asks "whether Heaven has not reserved in pity to this much educating generation some peaceful desert of literature as yet unclaimed by the crammer or the coach," the Editor takes advantage of the context and desires to be excused from giving the reference. In doing so, we are told, "he would only be 'troubling what is clear,'" while the proper course would have been to give the reference to the following lines in Johnson's *London*:

Has Heaven reserv'd in pity to the poor,
No pathless waste, or undiscover'd shore?
No secret island in the boundless main?
No peaceful desert yet unclaimed by Spain?

Again, how will the student understand Mr. Balfour's reference to Bacon's fame being "darkened by the Satire of Pope," if the Editor will not bring before him the famous line in the *Essay on Man* in which the poet calls him "the wisest, brightest, meanest of mankind?" We hope such defects will be rectified in a second edition. We can in the meanwhile recommend the volume as an eminently suitable book for general study in Indian colleges.

TALES FROM THE EARTHLY PARADISE: EDITED BY W. J. GLOVER. (A. & C. BLACK). 6d.

"The idle singer of an empty day" is a perennial source of enjoyment to the young. Messrs. Adam and Charles Black are now widening the bard's sphere of popularity by having his tales retold in simple and attractive prose. The Editor has successfully attempted to retain wherever possible the rich musical flow of the poet and has enhanced the usefulness of the book considerably, by valuable exercises in composition at the end. We have only two suggestions to offer, to make the book more interesting. The tales of the *Earthly Paradise* lend themselves admirably for purposes of illustration and it is a pity the publishers have not a single picture in the book. The Editor should have been well-advised if he had included a few extracts from Morris himself—they could have served as an effective introduction of the poet to the young student. It is this feature that constitutes the

main excellence of the volume on *The Earthly Paradise* in the series of the *Books for the Bairns* issued by the late Mr. Stead.

MUCH ADO ABOUT NOTHING: EDITED BY S. E. GOGGIN AND F. ALLEN. (THE UNIVERSITY TUTORIAL PRESS). 1s. 4d.

This is a useful addition to the *Junior Shakespeare Series* issued by the University Tutorial Press. The introduction and notes are as usual quite good and the volume maintains the general excellence of the annotated editions of the Tutorial Press.

A DICTIONARY OF CLASSICAL NAMES FOR ENGLISH READERS, BY W. T. JEFFCOTT. (MACMILLAN & CO. LTD.) 1s.

It is difficult to imagine any adequate study of the masterpieces in English Literature without a knowledge of the constant allusions to classical mythology with which they abound. Mr. Jeffcott's book will prove eminently useful to the student of English Literature, who is puzzled every now and then by references to classical mythology which he does not understand. The information is, it is true, supplied by reference books like Brewer's *Dictionary of Phrase and Fable* and Lampriere's *Classical Dictionary*, but it is now presented in a more handy and easily accessible form by the volume under review. Mr. Jeffcott has dealt with almost all the names that are likely to occur in the reading of an elementary student, and he has made the paragraphs attractive by including poetical passages bearing on the classical names. Even at the risk of increasing the size of the volume, we should like to see a larger number of illustrative poetical extracts. Homer and Virgil supply a large number of passages and Mr. Jeffcott may well think of quoting from the recognised translations. We cannot account for the omission of Oceanus from the list of names. When Augustus and Horace are mentioned, Virgil should be there too. Taprobane is not certainly more important than Hydaspes which is omitted. We see the Editor has not quoted under *Echo*, the famous lines in *Comus*:

Sweet Echo, sweetest nymph, that liv'st unseen
Within thy airy shell
By slow Meander's marger green,

* * *

A cursory examination has convinced us that sufficient justice has not been done to the names

in Homer and Virgil. Turnus, the distinguished opponent of Aeneas, is too important a personage to be ignored by Mr. Jeffcott. The deformed and scurrilous Thersites and the depraved Pandarus are again characters that must be included in any Dictionary of Classical Names.

CHILDE HAROLD'S PILGRIMAGE, EDITED BY A. HAMILTON THOMSON. (CAMBRIDGE UNIVERSITY PRESS). 2s. 6d.

This is one of the best editions of literary classics we have known. The book has a remarkably good Introduction and the annotation is thorough and comprehensive. The Editor has made every attempt to stimulate literary interest and curiosity in the reader by dwelling on parallels and drawing attention to the original sources of information at every step. The notes are particularly full with regard to the numerous historical allusions in the poem. To the average student of English Poetry, a number of references to events in European History in the poem, must remain unintelligible, but for such help. The summary of contents at the end of the poem will be found very useful by those who have to study the poem for examinations.

BOOK-WAYS, BY MISS EDITH KIMPTON. (RALPH HOLLAND & Co.) 2s.

Anybody who has had to do the teaching of the History of English Literature in the earlier stages of the collegiate course in this country, will have experienced the want of suitable text-books for the purpose. A very good one has been furnished by Miss Kimpton whose sketch is very comprehensive and at the same time very precise. The narrative is enlivened by a number of extracts from the writers dealt with. The biographical interest of literature, which has always been one of its greatest attractions is sufficiently in the foreground. A special feature of the book is the chapter on *To-day's Literature* which deals with contemporary writers.

NOTES ON THE TEACHING OF ENGLISH, BY W. J. BATCHELDER. (MACMILLAN & Co., LTD.) 1s. 6d.

Mr. W. J. Batchelder has been able to produce a very useful book to English teachers by the publication under review. This is no theoretical volume on the principles of language-teaching, but

an eminently practical guide-book to the teacher, giving hints on several aspects of the subject, Indian teachers will find the part relating to English Conversation Lessons of particular use in their work. We are glad to note that adequate attention has been paid to the elementary study of good English literature, which must begin as early as possible in the school-courses.

THE CULT OF HIGHER MEN, (THE SOUTH INDIAN PRESS, MADRAS) Re. 1.

The Cult of Higher Men or the Critique of Conduct, written by Dr. D. P. Thakore, Ph.D., is one of those few books that are calculated to provoke mental activity and elevate humanity by stimulating the understanding of man. The special feature of the book is the novelty of treatment of the subject. The learned author throws out certain original observations that would lead to healthy disputations. The author is anxious that his countrymen should profit by his varied experience and wide knowledge gained by his travels in foreign lands. Regarding the manner of his expressing his views one is inclined to think that his views are clothed in classical English. The language is very forcible and we fear it is to some extent difficult to be understood by the present-day average college student. The author has his sympathy only for the intellectual man. "Intellect becomes the abiding standard of man's measurement."

The learned author deeply regrets the want of capacity among his countrymen for any initiative action. He is of opinion that the present social and political condition of India was brought about by the lack of unity of action, power of cohesion and independence of thought. The tendency of our countrymen to delegate to others the performance of certain duties which they themselves are competent to do has, in the opinion of the author, tended to weaken their sense of responsibility and impaired their inherent power for joint action for which they were more renowned in the golden past ages than the present-day nations, who at the hands of the historians receive the highest praises for their powers of organisation, joint action and corporate feeling. The author is very anxious that his countrymen should cultivate the taste for self-help and self-reliance and self-thought. "To be able to think for one's ownself is the supreme way to knowledge because self is the supreme judge of all instructions, influence, suggestion, and education are undoubtedly the necessary guides of man but they are external to him. Without the desire and will to

utilise them their valuable services are lost upon him."

The goal of man is *Freedom* and it connotes power to act without restriction. "Freedom signifies that the restraint is removed and resistance is overcome; obviously, then freedom depends upon our knowledge of the forces about us. Knowledge grows by experience and experiments. Therefore the first and the last sovereign duty of man is to experiment freely and profit by experience and experiments."

The learned author then passes on to note the dangers and difficulties that beset men on their way to progress towards the realisation of the goal—'Freedom of thought and action'—social difficulties act as a clog to progress. These are based on bias and habit. Bias will disappear when the reasoning power is cultivated and habit will be overcome by a strenuous exercise of the will-power.

Dealing with the *transgressions* the author lays down certain rules by which education could be advanced and character-building achieved. The evils of early marriage are described in this chapter with a force of expression and vividness of details which are characteristic of the author.

Dealing with the economic well-being of the country Dr. Thakore severely finds fault with the present social evils which prevent the possibility of the choice of profession and restrict freedom of action within the ring-fence of a limited area. Knowledge is secured by study and observation. Mental culture and moral courage are essential in men, if out of them any good for the society is expected. They could not be easily got by the chronic immobility of man.

Dr. Thakore points out that mental culture and immunity from social evils are necessary for the progress of a country. He strongly advocates the policy of giving scientific and industrial education to the Indians. The learned author is plain and severe when he speaks of the dangers of early marriage and appeals to his countrymen to rise above the petty prejudices and painful jealousies which cloud over the sunshine of life, and do their best to advance the cause of their country by shaking off the lethargy which pulls them down and seeing things by themselves and acting with an amount of liberty of thought and purity of sentiment.

Ideals inculcated by the author are noble and elevating. It is for the practical man to decide how far the ideals can be realised. At all events a study of the book is sure to widen the intellect of young men and stimulate enquiries into the

conditions of our country in all its phases and find remedies for the existing evils.

Speaking on the literary merits of the book we feel inclined to note that there is a grim humour pervading the observations made in it. The book supplies no novel study and it expects like the lines of Robert Browning some intellectual stamina on the part of the reader to understand the spirit in which the ideals of the Dr. are set forth. Declamation and tirades appear here and there and in general it may appear that the learned Dr. is endeavouring to overcolour his language and indulge in an excess of force and vigour but a close reader will find that he rises equal to the occasion and that he has brought an immense store of varied experience to bear on the subject and his versatile erudition and powerful diction give him ample scope to put things in a telling way. The fundamental principle of his philosophy is freedom of thought and action and this principle of his philosophy is manifest even in his language.

The book is got up with considerable attention to its neat printing and good binding and we have no doubt that it would be a valuable addition to the library of every gentleman who has the desire to know the needs of his country and a tendency to do his best to elevate his countrymen.

HERALDS OF THE MORNING, BY ASA OSCAR TAIT.
(PACIFIC PRESS PUBLISHING ASSOCIATION, CALIFORNIA). Rs. 6-8-0.

[For further particulars apply to this office.]

For a clear and precise understanding of the signs of the times, we would wish our readers to have a copy of Mr. Tait's work which is remarkable for many things. The social and political conditions obtaining here and elsewhere in the so-called civilized world are described in unmistakable terms by the author, and their significance vividly drawn, does not escape the mind of the most doubting reader. For the moment the reader is carried away, much against his wish, to subscribe to the author's ingenious interpretations of events as taking place in society, among nations and in nature. The immense number of biblical quotations which Mr. Tait, with his untiring zeal, lays before his reader may not at once convince the sceptic; at the same time they rarely fail to call for a pause to reflect before proceeding ahead. To the faithful ones the book will be welcome as a great source of consolation under the stress and storm of earthly life. Moreover it will strengthen their faith and inspire them to renewed efforts towards abiding peace with man and God. Mr. Tait

writes with faith and his faith has become a conviction in him. This fact is amply supported by his critical and close acquaintance with the Scriptural evidence.

The evident object of Mr. Tait in producing the book is twofold. First to state facts as he finds them; and secondly to teach his readers to regard them in the light of the Scripture and its prophetic testimony. In recording facts, Mr. Tait does not show any particular leaning, but gathers them from all sources, and presents them in quiet seriousness and as artistically as a lover of form, beauty, order and detail would like to do. The finished picture, composed of bold as well as subdued outlines and details, presents problems sufficiently complex to tax the energy and intelligence of redoubtable social, political and ethical reformers.

Mr. Tait, in bringing out the book, which by the way is copiously illustrated, has rendered useful service to the cause of Christianity, inasmuch as he is first in the field to direct our attention to the teachings of the Bible as it is prophetically significant of the social and political conditions of to-day.

The book is replete with interesting facts and information drawn from all quarters of society. No aspect of human activities escapes Mr. Tait's attention. For the sake of the up-to-date and valuable information, if not for the suggested significance, we commend this beautifully got-up book to our readers.

INTRODUCTION TO THE SCIENCE OF EDUCATION—
BENOY KUMAR SARKAR, M. A., NATIONAL
COUNCIL OF EDUCATION, BENGAL. (LONGMANS,
GREEN AND CO., LONDON). 3s 6d. net.

This is a free translation of Professor B. K. Sarkar's Introduction to a pedagogical Series intended to cover a wide variety of subjects. Parts of the Series are already out. They are marked by a refreshing originality, and have been appreciated as based upon advanced and up-to-date ideas of educational reform,—ideas that have been realised in the author's practical experience as an active educationist; and their chief merit consists in the strong evidence they afford as to how, in competent hands, the vernaculars can be made effective vehicles of any shade of thought and so can be made efficient media of instruction in any subject. The Translator's preface gives a sparkling account of the young Professor's activities and achievements.

The 'Introduction' discusses the subject of education from the three recognised standpoints: the *historical*, the *theoretical* and the *practical*.

Human nature is complex, partly statical and partly dynamical, fixed and yet continually changing like a running stream. There are certain characteristics common to all mankind, the same everywhere and at all times; other characteristics again which are in a state of continual change. A knowledge of the human mind implies therefore a knowledge both of the permanent principles of human nature and of the ideals and institutions that have marked the several stage in the progress of the human mind, that is, of human civilisation. The historical method is suited to the latter study, and the philosophical to the former. A survey of the educational systems of different times and peoples will help us to consider how they were due to the special conditions in each case. The practical lesson to be learnt from this relation of cause and effect, and specially valuable to those who are entrusted with the responsibility of educating a whole people, is that for any system of education to be effective it should be *national*, which is only another name for *natural*. Education is a process of adjustment, of adaptation to surroundings both physical and social. Which of the surroundings should be availed of for purposes of education and which not are questions forming the practical part of the subject of education which deals with the ways and means by which the principles revealed by the historical and philosophical methods have to be actually applied in practice. Here the author has most valuable suggestions to offer. The merits of the inductive method of teaching are clearly explained and its applications to the several subjects lucidly illustrated. The general aim of the teacher should be not merely to enable the pupil to be a 'learner' but also to be discoverer and 'creator.' The 'direct' method, that by which we learn the mother-tongue is the best method for learning any language. For learning a language no training is needed in the definitions and rules of grammar. In the case of all the sciences, both physical and mental, there should be a progress from concrete facts and phenomena to the underlying principles. Books should have a place only next to workshops and laboratories, and even then should be not exhaustive but suggestive. The Professor's undertaking is a most laudable one and we wish it every success.

THE CHILDREN'S CLASSICS—PUBLISHED BY MESSRS. MACMILLAN & CO. No. 11, 2d.; No. 22, 2½d.; No. 23, 2½d.; No. 33, 3d.; No. 34, 3d.; No. 42, 3½d.; No. 43, 3½d.; No. 44, 3½d.; No. 53, 4d.; No. 61, 5d.; No. 62, 5d.

These are a set of graded Story Readers useful

as extra reading books for boys studying in the Lower Secondary Department. The stories are written in simple chaste English on varied interesting subjects so that the boys may very easily understand the stories without the help of a teacher. Many numbers have been published in the Series and reviewed herein from time to time.

THE SEASHORE I KNOW, BY W. P. WESTELL, F.L.S. AND HENRY E. TURNER. (J. M. DENT & SONS, LTD, LONDON) 8d.

This is one of the numbers of 'The Open-Air Nature Books' Series. It contains a full and natural description of the surroundings of a sea. The book will serve as a guide to train young boys to observe accurately and understand things before them.

PITMAN'S SHORTHAND INSTRUCTOR—*Centenary Edition*. PUBLISHED BY SIR ISAAC PITMAN AND SONS, LONDON. 3s. 6d.

As the year 1913 was the centenary of the birth of Sir Isaac Pitman, the publishers desired that the year should also be marked by the issue of a thoroughly improved edition of the principal textbook of the founder. The actual alterations made in the edition tend much to simplification and improvement. Great care and pains have been taken in preparing the centenary edition. At the end of each chapter copious exercises and a good summary of the principles dealt with in the chapter are given, thereby enabling the student to master the principles of the system as well as to acquire speed practice. The present edition is designed to the best advantage of the shorthand aspirant whether he be a beginner or an advanced student and deserves to be in the possession of every one who follows the Pitmanic School.

BOOK-KEEPING FOR BEGINNERS, BY W. E. HOOPER. PUBLISHED BY SIR ISAAC PITMAN AND SONS, LONDON. 1s.

The book aims at teaching the subject in its elementary form to beginners absolutely ignorant of the subject. The chapters are all graded, each one being based on and closely following the principles laid down in the previous chapter. Fully worked out specimen exercises are also provided to illustrate the subject matter treated in each chapter.

HOW TO WRITE A GOOD HAND, BY R. T. B. HOLLINGS. PUBLISHED BY SIR ISAAC PITMAN AND SONS, LONDON. 1s.

The object of the course of lessons given in the book is to train students to write a free legible style. Since the introduction of typewriting, no particular attention is paid now-a-days for good handwriting. The book treats of the subject in a very practical way. The Headmasters of the Primary Schools will do well to use the book.

A DAY IN OLD MADRAS, BY P. SESHADRI, M.A., PACHAIYAPPA'S COLLEGE, MADRAS. (A PAPER READ BEFORE THE SOUTH INDIAN ASSOCIATION.)

Mr. Seshadri has set up, with his accustomed ease and vivacity of style, a brilliant picture of Madras as it stood about two centuries ago, when it was comparatively in its infancy. With much labour he has culled for us the most interesting pictures from the works of writers on Old Madras like Wheeler, Lawson and Colonel Love, and has created out of them, if one may say so, quite a fascinating succession of scenes bearing on the manners and peculiar traits of both the English and the Hindus of those days. As one reads along Mr. Seshadri's account of the busy market by the sea, the proceedings of the Mayor's Court, the petty grievances of the Gentoo householders and the pomp and show displayed by the settlement on occasions of festivity, one feels that our ancestors enjoyed an atmosphere of romance and excitement which more than made up for the deficiencies in their life. We only feel that Mr. Seshadri's paper is too short, and that he would very soon bring forth what he promises — another imaginary excursion into Madras — this time at the end of the eighteenth century, when the city had undergone a radical transformation, but was still so different from the city of to-day as to excite our curiosity and imagination.

PUBLICATIONS RECEIVED.

Old Time Stories and Old World Customs, by A. Gertrude Caton. Part I, The Ancient People of the World, 6d.; Part II, Britain, 6d.; Part III, The Middle Ages and Beyond, 6d. London: Macmillan.

A Shorter Algebra, by W. M. Baker and A. A. Bourne. London: Bell. 2s. 6d.

The Tutorial Algebra, by William Briggs, M.A., B.Sc., F.R.A.S. London: University Tutorial Press. 6s. 6d.

Byron's Child Harold's Pilgrimage, edited by A.M. Thompson, M.A., F.S.A. Cambridge: University Press. 2s. 6d.

Bell's English Texts, edited by S. E. Winbolt, M.A.: Poems of John Milton; Selections from Chaucer; Macaulay's History of England, Chapter III; Plutarch's Lives of Cæsar and Cicero; Poems of Lord Byron; English Elegiacs. London: Bell. 6d. each.

Bell's Poetry Books, Parts I to VII. London: Bell. 3d. each.

Bonard's German Method. London: Wilson 2s. 6d.

Cæsar: Gallic War, Book VI, by L. M. Penn, M.A. London: University Tutorial Press. 1s. 6d.

Rajyadthurandara Sir K. Seshadri Iyer. Bangalore: The "Karnataka Office." 8 As.

Preliminary French Lessons, by Oita Seipmann. London: Macmillan. 1s.

The Peoples of India, by J. D. Anderson. Cambridge: University Press. 1s.

Notes on the Teaching of English, by W. J. Batchelder. London: Macmillan. 1s. 6d.

Arthur James Balfour, by J. G. Jennings. London: Longmans. 1s.

Introduction to the Science of Education, by Benoy Kumar Sirkar, M.A. Longmans: London. 3s. 6d. net.

The Evolution of New Japan, by J. H. Longford. Cambridge: University Press. 1s. net.

The Fertility of the Soil, by E. J. Russell. Cambridge: University Press. 1s. net.

A First-Book of Nature-Study, by E. Stenhouse, B. Sc. London: Macmillan. 1s. 6d.

Study of Chemistry and First Aid for Standard VII, by H. E. H. Pratt, M.A. I.E.S. and P.C. Wren, M.A., I.E.S. Bombay: Longmans. Re. 14 As.

- Higher Algebra, by W. P. Milne, M.A., D.Sc., London: Arnold. 7s. 6d.
- Intermediate Theoretical Geometry, by the Rev. Jos. Baizini, S. J., St. Aloysius College, Mangalore. Re. 14 As.
- A National System of Education, by J. H. Whitcomb, M. P. Cambridge: University Press. 2s. 6d. net.
- Piers Plowman Histories, Junior Book VI. London: Philip. 2s.
- Practical Surveying and Elementary Geodesy, by Henry Adams. London: Macmillan. 4s. 6d.
- A First Numerical Trigonometry, by W. G. Borchardt, M.A., B.Sc., and A. D. Perrot, M.A. London: Bell. 2s. 6d.
- The Building of the British Empire, by E. M. Richardson, B.A. London: Bell. 1s. 6d.
- Bookways: An Introduction to the Study of English Literature, by Edith Kimpton, M.A. London: Holland. 2s.
- Practical Speech Culture, by Alfred C. Cox. London: Holland. 1s. net.
- Scott's Guy Mannerling, by R. F. Winch, M.A. London: Macmillan. 2s. 6d.
- Educational School Gardening and Handwork, by G. W. S. Brewer, F.R.H.S. Cambridge: University Press. 2s. 6d. net.
- Squaring the Circle, by E. W. Hobson. Cambridge: University Press. 3s. net.
- A New Geometry for Middle Forms, by Barnard and Child. London: Macmillan.
- Manual for Teachers of Primary Schools in India, by J. A. Richey, M.A. London: Macmillan.
- Teachers' Handbook to the use of Anderson and Marsden's Short History of the British Empire, by Percival C. Wren, M.A., I.E.S. London: Macmillan.
- British Administration in India, by G. Anderson, Bombay: Macmillan. Re. 112 As.
- Lessons in the History of India. For the Lower classes, by Llewelyn Tipping, M.A., 6d.; For the Higher classes, 6 As. London: Macmillan.
- The History of India, by Sir Rupert Lethbridge. London: Macmillan.
- Representative English Comedies, Vol. II: edited by C. M. G. Gayley, Litt. D., LL.D. London: Macmillan. 8s. 6d.
- Exercises from A New Algebra, by S. Barnard and J. M. Child. London: Macmillan. 2s. 6d.
- The Childrens' Classics, Senior II, No. 61. London: Macmillan. 5d.

BOOKS RECEIVED FROM
THE OXFORD UNIVERSITY PRESS.

- The Oxford Geographies, edited by A. J. Herbertson: The Clarendon Geography, Vol. I, 3s. Vol. II, 3s. Also in parts. Part I, Principles of Geography, 1s. 4d.; Part II, The British Isles, 1s. 4d.; Part III, Europe, 1s. 4d.; Part IV, Asia, 1s. 4d.; Part V, Africa and Australasia, 1s. 4d.; Part VI, America, 1s. 4d.
- Geography of England and Wales, by M. S. Elliott. 1s.
- The Commercial Geography of the World, by O. J. R. Howarth, M.A. 2s. 6d.
- Animal Geography, by Marion I. Newbegin, D. Sc. 4s. 6d.
- The Oxford Industrial Readers: A Day with Leatherworkers; A Day in an Iron Works: A Visit to a Woollen Mill; A Day in a Shipyard; A Visit to a Cotton Mill; A Visit to a Coal Mine. 8d. each.
- Play-Books of Science, edited by V. E. Johnson, M.A.: Chemistry and Chemical Magic; Flying and Some of Its Mysteries; Mechanics and Some of Its Mysteries; Electricity and Electrical Magic. 1s. 6d. each.
- A Course of Elementary Practical Physics, by H. V. S. Shorter, B.A. Part I, 2s.; Part II, 3s.
- English Composition, by A. Cruse. 2s. 6d.
- Exercises in Dictation and Composition, by N. Nottenman, M.A. 2s.
- Oxford Supplementary School Books, edited by Lewis Marsh, M.A.: Tales of Foreign Lands, 1s. 6d.; Tales of the Homeland. 1s. 4d.
- Handwork and its Place in Early Education, by Laura L. Plaisted. 4s. net.
- Stories from Mediæval Romance, told by Netta Syrel. 2s.
- A Progressive Course of Precise Writing, by F. E. Robson, M.A. 2s. 6d.
- First Principles of Hygiene, by W. D. Starrock, M.D. 2s. 6d.
- A Text-book of Elementary Trigonometry, by R. S. Heath, M.A., D.Sc. 3s. 6d.
- Captain Cook's Voyages. 6d. net.
- The Boy's New Library: The Lost Island, by Captain Gibson. 7d. net; King of the Air, by Herbert Strang. 7d. net.

- Poems of Action, by V. H. Collins. 1s. 6d.
- English Prose Passages for Repetition, by H. A. Treble, M.A. 1s. 6d.
- The Romance of Travel Series. 6d. net each.
- Days in the Golden East, by Elliot Warburton; In the Forests of Brazil, by H. W. Bates; The Land of the Lamas, by the Abbe Hue; A Trip up the Nile, by Elliot Warburton; Redman and Buffalo, by W. A. Bell; A Cruise in the Northern Seas, by Lord Dufferin.
- Wonders of the Sea Series, edited by F. M. Duncan and L. T. Duncan. The Star-fish and his relations; Wonders of the Shore; The Lobster and his Relations; The Sea-Birds; Dwellers in the Rock Pools; Life in the Deep Sea. 6d. each.
- Wonders of Insect Life Series, edited by F. M. and L. T. Duncan. Butter-flies and Moths; Bees, Wasps and Ants; Some Curious Insects; Spiders and Scorpions; Beetles and Flies; Insect Life in Pond and Stream. 6d. each.
- The Oxford Story Readers: Old Welsh Stories, by Mary C. Ellis. 3d.; Sir Walter Scott's Bonnie Prince Charlie. 6d.
- Oxford Supplementary Histories: Scenes of Tudor Times. 6d. net.
- Romance of the World, III—India's Story: The Great-Fight for India by Herbert Strang. 1s.; Eastward Ho!, by Herbert Strang. 1s.

Indian Educational Notes.

MADRAS.

Government Orders—The Government of Madras have been pleased to grant the sum of Rs. 38,000 towards the construction of a Hostel for the use of the pupils of the Madura College, Madura. It is some years since the College authorities acquired a site for a hostel and the grant of this liberal sum would enable them to take the construction soon on hand.

The Government of Madras have sanctioned a grant of Rs. 4,000 to the Municipal Council of Mayavaram for carrying out improvements to the play-ground attached to Municipal High School. The Accountant-General will be requested to place the amount at the disposal of the Council.

The Government approve the proposal of the Director of Public Instruction to distribute a subsidy of Rs. 20,000 among District Boards for the improvement of elementary school gardens, The Accountant-

General is requested to place the amounts specified at the disposal of the District Boards. The charge will be met from the special Imperial grant of 23 lakhs for education provided in the civil budget estimate for 1913-14.

The Government approve the proposal of the Municipal Council of Salem to construct a new building for its college at an approximate cost of Rs. 80,000. In view of the special circumstances of the case the entire cost of the building will be met from the non-recurring Imperial grant of 49 lakhs. Further orders will issue in the Local and Municipal Department in regard to the selection of a site for the new building and in the Public Works Department in regard to the preparation of detailed plans and estimates and the execution of the work. The Director of Public Instruction will be requested to furnish that department with exact particulars as to the requirements of the college in the new building to enable the plans and estimates to be drawn up speedily. On completion, the building will remain the property of Government and will be lent to the Municipal Council for the use of the college. The present building, which belongs to Government, should in the usual course be handed back to them.

The Director of Public Instruction will be informed that Her Majesty the Queen-Emress has been graciously pleased to comply with the request that the new Government Girls' High School at Vizagapatam may be designated "The Queen Mary High School for Indian Girls, Vizagapatam."

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure nor Rs. 5,150 towards the cost of making certain extensions to the building occupied by the London Mission High School, Coimbatore, subject to the following conditions:—that in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure nor Rs. 7,190 towards the cost of construction of a building for the George Coronation Secondary School, Turumella, Tenali Taluk, Guntur District, subject to the following conditions:—that in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure, nor Rs 8,000 towards the cost of construction of a hostel for the American Mission Training School, Pasumalai, Madura district, subject to the following conditions:—that in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Government of Madras have as a special case sanctioned a grant not exceeding Rs. 38,000 towards the cost of construction of a hostel in connection with the Madura College, Madura. In supersession of G. O. No. 224, Educational, dated 11th March 1912, the Government have sanctioned for European Schools a grant not exceeding two-thirds of the actual expenditure, nor Rs. 36,933 towards the cost of construction of a building for the St. Joseph's European Convent Girls's School, Coimbatore, with a hostel and out-houses.

Government were pleased to sanction a contribution of Rs. 10,000 to the hostel to be constructed as an adjunct to the National High School at Ramachandrapuram. Rs. 8,000 were collected in the taluk by means of subscriptions and the required site was given by two landlords of that town. The corner-stone was laid by the Collector in November, 1912.

Professor Corney's retirement—The students of the Nizam College gave Professor Corney a farewell address recently. Mr. Corney had been for many years the Professor of English and Latin in Nizam College, and it is only a few months since he retired from the service. The programme opened with a Hockey Match.

At half past five in the evening, the address was read by a student of the College with Mr. Burnett, the Acting Principal in the chair.

In his reply Mr. Corney said:

Thanking you all for the many kind things you have said in commendation of me and for your goodwill, I commend to your earnest attention these words:

Whatsoever things are true
Whatsoever things are elevated
Whatsoever things are just
Whatsoever things are pure
Whatsoever things are amiable
Whatsoever things are of good report:

If there be any virtue and if there be any praise, have these in your mind, let your thoughts run upon these."

Erode High School.—The annual distribution of prizes in the Mahajana High School, Erode, was celebrated on the 20th instant, with great *eclat*. The District Judge, Mr. Moberly, presided and gave away the prizes. As soon as Mr. Moberly and the Hon'ble Mr. C. Vijayaragava Chariar who is the President of the Mahajana High School Board, arrived at the Railway Station by the noon train from Coimbatore and Salem respectively, they were received by the Secretary of the School, Mr. U. R. Venkata Rao, Mr. B. V. Ramaswami Sastriar, the Headmaster, Mr. S. Rangaswami Aiyangar, District Munsiff and several Vakils and the whole staff of the school. Precisely at 4 p. m. Mr. Moberly arrived at the District Munsiff's Court from which place he was taken in procession to the school by the Hon. Mr. C. Vijayaragava Chariar and the leading gentlemen of the town with music. The programme commenced at 4-30 p.m. with welcome songs in Tamil. Then there were recitations in English which were much appreciated by all. Then followed the reading of the reports by the Headmaster and the Secretary. After the prizes were given away to the recipients Mr. Moberly gave a few words of advice to the students and exhorted them to cultivate a sound mind and sound body. He advised the boys to obey their masters, to have absolute faith in them and to cultivate honesty. Then the President of the School Board thanked Mr. Moberly for having consented to preside in the midst of his arduous duties. Mr. Moberly was then garlanded and after the distribution of *pan supari* the programme came to a close.

Ongole Teachers' Association.—The Third Anniversary of the Teachers' Association in the Ongole Range was held recently in the Jaganmitra Hall under the presidency of Mr. M. Kameswara Rao Pantulu, B.A., Inspector of Schools, 2nd Circle. There were present at the meeting about 300 teachers and the elite of the town. At 7-30 a.m. articles prepared by the teachers and pupils of the several schools in the Range were exhibited. The best of the exhibits were selected by Mr. C. M. Sreenivasachary, Assistant Inspector of Schools, Guntur District, Mr. K. Ramakrishna Rao Pantulu Garu, B.A., and Mr. N. Venkatramam Sastry, Pleaders. At 8-30 a.m. Mr. S. Krishnamachariar, B.A., President of the Association, instructed the members of the Association on the preparation of oxygen and carbonic acid gases.

The public meeting commenced at 4-30 p. m. After the usual prayer, the Secretary of the Ongole Teachers' Association read the Annual Report on the work of all Associations in the Ongole Range. Mr. K. Ramakrishna Rao Pantulu Garu, B.A., lectured to the audience on "Character and its Formation."

The Civil Court scene that was enacted by the young pupils of the town Municipal Elementary School was greatly appreciated by the audience. The President of the meeting gave useful advice to the teachers assembled.

The meeting closed with the distribution of prizes and a vote of thanks to the President, the lecturer and the gentry assembled.

Victoria Memorial High School, Periyakulam.—The Periyakulam Victoria Memorial High School Day was celebrated with much *eclat* on Sunday, the 11th inst. The Headmaster and Assistants and the past and present students of the school gathered in large numbers. A number of gentlemen who had been specially invited for the occasion were present. The social part of the programme preceded the business part, and the guests, the masters and the students, past and present, were treated to light refreshments. The general meeting was begun at 4 p.m. with the Honourable Mr. K. Rama Iyengar in the chair. There were recitations in Sanskrit and Tamil and the Secretary read his report, which had already been approved by the members in the business meeting. J. W. Stanley, Esq., delivered a lecture on "The Call to Manhood." Then the Chairman distributed the prizes to the winners among the past and present students who played the sports the previous day. The toast of the King-Emperor was proposed by the Headmaster, President of the Day Committee.

The toast to the High School was then proposed by Mr. R. Venkatarama Iyer, M.A., an old student of the school who wished success and prosperity to the school.

The Chairman in a neat speech, pointed out the responsibility of the students and urged the necessity on the part of the old students to come forward with monthly subscriptions and donations towards the upkeep of the school and thanked the members of the School Day Committee who had successfully arranged everything towards the celebration and wished success and prosperity to the school. The National Anthem was then sung by the students and Mr. I. R. Muthuswami Iyer, one of the Assistants of the School proposed a vote of thanks to the Chairman, to the lecturer and to the gentleman who had responded to the invitation and contributed to the celebrations. The meeting then terminated with cheers to Their Gracious Majesties, the Chairman, the lecturer and the guests.

Acts IV and V from the 'Merchant of Venice,' and a few selected dialogues were played by the students with great success in the night.

The Presidency College Mathematical Society.—The above society has been recently started by the Mathematics Honours Students of the Presidency College. Its object is stated to be the promotion of mathematical knowledge, and research among the students, which is to be achieved by the reading of papers, original or otherwise, by the members. The inaugural address was recently delivered by Prof. Littlebailles, M.A., with Mr. Ross, M.A., Prof. of Mathematics, Xian College, in the chair. The first meeting was held when Mr. T. K. Venkatarama

Ayer, M.A., L.T., presided and Mr. A. Narasinga Rao read an interesting paper on "Isogonal Transformation" in which he used simple and original methods to establish known results.

Training of Engineering students.—The Government of Madras have considered the proposals of the Principal of the Engineering College for the revision of the existing arrangements for the practical training of engineering and upper subordinate students. They are of opinion that there is no need for any special training for civil engineer students on railway construction, as suggested by the Principal, since all that it is necessary in this respect can be sufficiently provided for by the Public Works Department. The scope of training will, however, be extended by sending students to the Madras City Drainage and Water-Works and in future they will be trained at one or other of the following workshops or works:—(1) Public Works divisions in which large works are in progress. (2) The Madras City Water Supply and Drainage Works. (3) The Public Works Workshops, Madras. (4) The Madras and Southern Mahratta Railway Locomotive Shops at Perambur. (5) The Central Power Station of the Madras Electric Supply Corporation. (6) The Madras Harbour Works. The period of training will be reduced from two years to one year. As at present, no fees will be charged for any training under the Public Works Department, but the amount of premium payable by each student will be fixed at Rs 250 in the case of the Perambur Workshops and the Central Power Station of the Madras Electric Corporation and Rs. 200 in the case of the Madras Harbour Works and the Madras Water Supply and Drainage Works. The students will pay the premium themselves in the first instance, but 50 per cent of it will be refunded to them if the reports of their progress while under training are satisfactory. This concession will not be allowed to more than ten students in each year.

The Victoria College, Palghat.—A meeting of the Palghat Municipal Council was held recently. Most of the Councillors were present including Mr. J. N. Hall, I.C.S., the Sub-Collector. The most important proposition was that the Government be requested to take over the management of the Victoria College into their own hands. Mr. S. K. Ramaswami Iyer spoke at length for about one hour in favour of this proposition. He pointed out the financial difficulties and the deficit at which the college is working. The proposition was unanimously carried and the resolution will soon be submitted to the Government. It would be a great benefit to Palghat if the Government takes up the management of the whole college, but if the college should be reduced to a high school, that would be the greatest curse upon the people of these parts. An additional teacher has been sanctioned by the Government for the Victoria College on Rs. 80-2-100. The appointment has not yet been made.—*W. O. Spectator*,

Hindu College, Tinnevely.—The 20th instant was a red-letter day for the Hindu College, Tinnevely, for, it was the first time since 1908 that the annual prize-giving was held. The College was gaily decorated and the gathering was held out on the Badminton courts. The Collector of the District, Mr. G. H. B. Jackson presided, while Mrs. Jackson kindly distributed the prizes. Among those present were Mr. D. G. Waller, Sessions Judge, the Right Rev. A. A. Williams, Mr. K. R. Guruswamy Iyer, Mr. Thams Thaslu, Rev. Scott Price, Dr. A. K. Naraina Aiyar and all the leading Hindu gentlemen of the town.

The proceedings opened with the singing of a Sanskrit sloka by Pandit Mahalingam Aiyar after which the Principal Mr. I. Srinivasa Aiyar read the report of work done during the last 4 years :—These years have been, on the whole, one of progress in all directions. The Inspector remarks :—“The general condition of the institution continues to be good and reflects great credit on the Principal. Considerable improvements have been made during the last 2 years—the staff is very much stronger, and the financial position is sounder.” Having presented the Report, the Principal called upon Mrs. Jackson to present the prizes, which were very handsome. Two medals, one for proficiency in English was presented to S. V. Gopalakrishna who is now prosecuting his studies in the Presidency College and the other to a Mahomedan lad who was chosen by his class-mates as being the most honourable in the Intermediate class. The Collector then offered some interesting observations. The Principal then garlanded the Collector and Mrs. Jackson and with the distribution of *pan* and the singing of the National Anthem the proceedings terminated with 3 hearty cheers for His Majesty and the President.

CALCUTTA.

Inspection of Colleges.—The “Bengalee” writes :—We understand that a proposal has been made that Sir Theodore Morison and Mr. Fisher should inspect some of the Colleges and see how the teaching in English is conducted by the Indian professors. We fear the Indian professors will resent any inspection of this kind, as implying a slur upon their capacity to teach English. If the work of teaching is to be inspected by the members of the Public Service Commission, it ought to be done not only in respect of English but also of other branches of study. Nor should it be assumed that English is necessarily taught with perfection, because it is taught by Englishmen. Englishmen as a rule do not study their own language and literature, whereas Indians often take to it with unsurpassed diligence and obtain a mastery which is the admiration of Englishmen themselves. The proposal in the form it has been put forward, creates needless irritation and should, we think, be abandoned.

Post-Graduate Research Scholarships.—Early this year three post-graduate research scholarships of the monthly value of rupees 100 each, and tenable for a maximum period of three years, (but in the first instance for one year only), will be awarded. The conditions of candidature are somewhat stringent. No candidate will be accepted who has not passed the M. A., the M. Sc., the M. D., the D. L. or the Master in Engineering Examination of the Calcutta University in 1911, 1912, or 1913. Only those candidates will be considered who are possessed of high qualifications, who can give evidence of capacity for original research and who are “bona-fide” natives of the Presidency of Bengal.

Two of the scholarships will be awarded to candidates who propose to carry on original research in some scientific subject, such as Natural and Physical Science, Chemistry, Mathematical Science, etc. The other may be awarded to a candidate who undertakes research in some literary subject, such as a Language, Comparative Philology, Palaeography, Epigraphy, Philosophy, History, Archaeology, Anthropology, etc., but no application for a scholarship for research in a literary subject will be considered unless a candidate not only shows evidence of capacity for the research proposed, but also makes it clear, by the programme which he submits, that he has thought out a definite course of enquiry. In the forthcoming selection all scholarships may be awarded for Scientific Research or vice versa. The last date for sending in applications is February 15th.

Indian Public School.—As a result of the requisition of a number of Indian gentlemen and influential Zemindars to establish a school in Bengal on English public school lines, an important Conference was held at Government House to consider the suggestion and to devise what steps, if any, should be taken to carry it into effect. His Excellency Lord Carmichael presided and there were present the Hon. Mr. P. C. Lyon, Member of the Executive Council of the Governor, the Hon. Mr. W. W. Hornell, Director of Public Instruction, Bengal; Sir Rajendra Nath Mookerjee, the Hon. Mr. S. P. Sinha, the Hon. Mr. B. C. Mitter, Mr. Samman, Mr. S. R. Dass, Raja Kissori Lal Goswami and Nawab Serajul-Islam.

His Excellency the Governor in opening the Conference remarked that in this matter although it was desirable to have such a school yet the Government could not render any financial help as by doing so it would be depriving poor people of the means of educating their children. He, however, assured the requisitionists that they had the full moral support of the Government.

Lord Carmichael then left and the Hon. Mr. P. C. Lyon presided over the deliberations of the Conference.

Ranchi and Kurseong were mentioned as possible sites but ultimately the Conference resolved that a small beginning be made as an experimental measure, and that some houses in Calcutta or in the suburb b

with large compounds be rented; that the school be started on a small scale with some fifty residential pupils and the requisite teaching staff; that the staff be brought out from England and should consist of one headmaster and two assistant masters to commence with.

A sub-committee was appointed to consider and report at as early a date as possible on the experimental scheme. The sub-committee comprised the Hon. Mr. P. C. Lyon, Sir Rajendra Nath Mookerjee, Mr. Samman, the Hon. Mr. S. P. Sinha, the Hon. Mr. B. C. Mitter and Mr. S. R. Dass.

B. N. Dutt Prize Essay for Indian ladies.—The following notification has been issued by the Director of Public Instruction, Bengal :—

The following alternative subjects have been selected for Babu Brajamohan Dutt's Prize Essay of Rs. 45 (forty-five) for the year 1913-14 :—

(i) Water treated from the domestic and the sanitary point of view.

(ii) Female education in its bearing on the future of Hindu society.

The conditions for the award of the prize are—

(1) That the competition be open to all educated women, being natives of Bengal without regard to age.

(2) That the prize be given for an essay to be written either in Bengali or Sanskrit.

(3) That essay be sent to the Central Text-book Committee for adjudication within six months of the date of advertisement.

(4) That each essay be accompanied by a written declaration of the husband, parent or guardian of the competitor that to the best of his belief she has received no assistance of any kind, direct or indirect in writing the essay.

Candidates are required to send their essay not later than the 25th May 1914 to the Secretary to the Central Text-Book Committee, Office of the Inspector of Schools, Presidency Division, 285, Bowbazar Street, Calcutta. The envelope containing the essay should be superscribed “Brajamohan Dutt's Prize Essay.” The name of the successful competitor will be published in the “Calcutta Gazette.”

A lady who wins the prize in any year is not debarred from subsequent competition, and if the essay submitted by a competitor who has been previously successful is adjudged to be the best, the name of such a competitor will be published in the Gazette as the winner of the competition. The actual prize will, however, in these circumstances be awarded to the competitor whose essay is adjudged to stand next in order of merit, provided that her essay comes up to the standard required by the next clause.

If none of the essays come up to a standard which is, in the opinion of the examiners, adequate, no prize will be awarded.

BOMBAY.

Physical Culture in Schools.—A Bombay Government Press Note says :—In order to popularise physical culture in the schools, a member of the Indian Educational Service, Mr. Wren, who had been studying the questions for some time, was deputed on special duty for preparation of a Manual of Drill Exercises and instruction of a class in such exercises. At a class assembled at Poona in October last, which was attended by teachers of various institutions, a good course of physical culture was shown including breathing exercises for the lungs, abdominal exercises for the stomach, liver, bowels, etc., rubbing exercises for circulation of the blood and for the skin and exercises designed for development of the larger exterior muscles. The main tenets of the new scheme of physical culture should be for health and not for big muscles and it should be for a few minutes every day rather than for a longer period once or twice a week. Mr. Wren strongly emphasised the theory that the health and strength of heart, lungs and digestive organs must inevitably precede the health and strength of muscles. Mr. Wren is publishing a teacher's book on Physical Culture soon. The Educational Department hope before long to find the dry bones of drill vivified into a live and rational physical culture.

The New State Librarian of Baroda.—H. H. the Gaekwar of Baroda has appointed Mr. Newton Dutt as State Librarian of Baroda. Mr. Newton Dutt, says the *Bombay Chronicle*, is the son of the late Dr. Khetter Mohan Dutt, a well-known Bengali gentleman who married an English lady, settled down in England and remained there all his life. Two of the Doctor's daughters married members of the I. C. S. Mr. Newton Dutt, who is at present in the service of the Calcutta Corporation, served for thirteen years with Messrs. George Newnes in the “Strand Magazine” Office and in other publishing houses, including Messrs. Cassell and Co., Kegan Paul Trubner and Co., and George Philip and Son. At Baroda, Mr. Dutt will be in charge of the Central Library Department with all the numerous branch and mofussil libraries scattered throughout the State. It will be remembered that Mr. Borden, the late Director of Libraries, who was brought from America to organise a network of free public libraries in the State, retired in July last after three years' service in the State.

ALLAHABAD.

Education in the United Provinces.—The general report on public instruction in the United Provinces for the year 1912-13 has just been published. We are told therein that the most important feature of the year's working has been the great advance in primary education which was made possible by the large grants given to Boards for opening new schools, reopening old schools

closed for want of funds and appointing extra teachers. In order that this advance may continue on sound lines, we are further informed, careful surveys of their districts were made by the inspecting staff and programmes were prepared indicating the places where schools could be opened immediately or in the near future, the amount of expenditure that would be involved and other details regarding teachers, buildings, etc. 'It is hoped eventually to provide educational facilities for every boy within a mile and a half of his home, but the attainment of this ideal depends, of course, largely on the extent of the grants that will be available.' The provincialisation of the Deputy and Sub-Deputy Inspectors came into force during the year. Rules have been framed to define the duties and powers of these officers and to regulate their relations with the District Boards and the Divisional Inspectors. The Director makes an appreciative reference to the late Pandit Kali Dat Dube, Assistant Inspector of Schools, by whose premature death 'the department lost the services of a conscientious and experienced officer who had won the respect of all with whom he had to deal.'

MYSORE.

The Government of Mysore have now passed orders revising the scale of pay of educational officers in the State. The changes introduced are in the direction of liberality and have been necessitated by the increase in the number of schools, the alterations in the curriculum, the new Regulations of the University of Madras and generally the impetus given to educational progress in recent years. The order states that the chief defects in the existing arrangements are that the number of appointments in each grade is not fixed, that several of the scales of pay overlap one another, that selection on the ground of merit has little operation in the appointment of Head Masters, Inspectors, etc., that there has not been sufficient and systematic interchange between the tutorial and the inspecting staff and that the prospects of Anglo-Vernacular Schoolmasters and of Assistant Masters in certain grades are very unattractive. Moreover the minimum pay of teachers of Vernacular Schools was raised from Rs. 7 to Rs. 10 in 1907 and 1908. But most of the teachers of these schools are drawing only Rs. 10 and under the existing scale there is no chance of bettering their prospects or of introducing men with better qualifications into the service. There will be one Inspector-General of Education on Rs. 1,250, one Deputy Inspector General on Rs. 400—50—700 and an Assistant to the Inspector-General on Rs. 350. The total number of officers in the Inspectorate has been raised from 25 to 26, and three officers are to get Rs. 400—20—500. The number of the teaching staff in the two Colleges at Bangalore and Mysore will be 28, and the number of Professors 12 as against 11. There are to be two grades of Professors drawing Rs. 500—50—1000 and Rs. 400—50—700. There

are three classes of Assistant Professors drawing Rs. 350, Rs. 200—20—300 and Rs. 175 respectively. There are to be 10 Headmasters in three grades, those in lowest drawing Rs. 175 and those in the higher Rs. 350. The number of men drawing Rs. 10 in State Anglo-Vernacular Schools has been reduced from 363 to 176, the rest being placed on higher grades. The total extra cost involved in this reorganisation is Rs. 78,788 per annum. On paper there would appear to be no distinction between European and Indian Professors, and we are told that 'the highest standard of qualification will continue to be required for the grades of Professors of Colleges including capacity to teach the entire course of the B. A. examination in one or more subjects'. Promotion from grade to grade and particularly to the positions of Professors, Assistant Professors, Circle Inspectors, District Inspectors and Headmasters of High Schools will not, the Durbar state, be sanctioned as a matter of course. The appointments will be made by selection, depending on merit and special aptitude and not on mere seniority. Government lay stress on the desirability of periodical interchanges between the tutorial and the inspection staff, so that both branches may be in close touch with developments in the theory and practice of teaching. The scales of pay have been fixed so as to permit of such interchanges with facility. The scale under each of the five main divisions will be worked as a provincial scale.

The Maharaja's Sanskrit College.—H. B. the Maharaja of Mysore has been pleased to appoint the following gentlemen to form the Committee of Management of the Maharaja's Sanskrit College, Mysore. The Palace Controller, (President); Mr. S. Rangachari, (Secretary); Pandit Navinam Ramanujachari, Pandit K. Rama Sastri, Pandit H. Sesachari, Pandit K. T. Venkatasubba Sastri, Mr. Hiriyanna, and Mr. D. Venkataramayya.

The Text-Book Committee.—There was a meeting of the Text-Book Committee on the 17th instant. Mr. M. Shama Rao, the Inspector-General of Education presided at the meeting. The report of the Committee was read and passed. Sub-Committees were appointed to write such books as were wanted and to review books that came for encouragement. A resume of the work done during the past year was read and the programme of work for the future year was settled. During the time of Mr. Weir, the Text-Book Committee had resolved that there should be one set of text books for all schools and that they should not be changed at least for a year. It was resolved that this rule should be enforced. Arrangements for the writing of useful Canarese books were made and the meeting terminated with a vote of thanks to the chairman.

Wesleyan Mission High School.—Quite one of the biggest audiences one can ever remember hav-

ing seen at a function of the kind in Mysore was that which assembled in the Wesleyan Mission High School on the occasion of the annual prize-giving to students of that institution. The chair was taken by Sirdar M. Kantaraj Urs, Second Councillor, who also most kindly undertook the task of distributing the prizes. After the formalities of reception were concluded, the Rev. Mr. R. W. Boote, B. Sc., Principal of the School, thanked Sirdar Kantaraj Urs in peculiarly happy terms for the honour he had done the school by consenting to preside on the occasion.

The Rev. Mr. Boote then read the Report for the past year. After the prizes had been duly given away, Sirdar Kantaraj Urs delivered an interesting speech in the course of which he said: "Before I sit down, let me address a few words of advice such as I can give, to my young friends assembled here this evening. Remember that the school-boy days are the happiest moments in one's life and the opportunities of self-improvement, such as they come, rarely repeat themselves. If you neglect them once, they are lost for ever. It, therefore, behoves all of you to take every advantage of such opportunities and make the most of them. In years to come when you reach your manhood, life becomes saddled with responsibilities, which you have to realise and meet to the best of your power and abilities. Lord Haldane, just the other day, while addressing the members of the Associated Societies of the University of Edinburgh, laid great emphasis upon the importance of students acquiring powers of efficiency and habits of self-control during their careers as such, in order to face the onerous responsibilities of life later. In the fulness of years everyone of you will be called upon to bear your share of the burden of citizenship and unless you are fully equipped with the requisite qualities demanded of you, you will not be able to play your role successfully. Remember that the prize-winners in a school have not always been the winners of prizes in life in this world. Mere intellectual superiority without character and integrity will never help you to get on in the world. Your Principal has told us in his interesting report that, the chief work of the school, consists in helping in the formation of character and that the aim of the teachers, one and all, is to see that this most important part of their duty is not neglected. There cannot be a nobler mission in life than this, to fulfil. You must have noble ideals before you and set your ambition quite high. I may quote here, for your benefit, the parting words of advice given to Alexander Hamilton, one of the great American Statesmen, by his mother. They were "my son, never aim at being second best and you will be in harmony with the everlasting principles of the universe." A life without an aim may well be compared to a ship on the high seas without a compass. How often do we come across the sorry spectacle of a young man, just out from a school or college, wandering about aimlessly in quest of the means of livelihood! If these young men only give a timely thought as to their future, they would cer-

tainly spare themselves a deal of worry and trouble later in life.

TRAVANCORE.

Kottayam Teachers' Conference.—This Conference, and the Educational Exhibition connected with it, have been a great success. The Conference opened recently and lasted for four days, under the presidency of Mr. S. Subramany Sastri, Inspector of Schools. About 120 Vernacular (Elementary) Schools in the Kottayam District, with over 500 teachers, took part in the Conference. There were lectures on such subjects as the following:—Electricity, Malayalam Literature, Rainfall, the Circulation of the Blood and Respiration, the Awakening of China, and the Pressure of Air and the Barometer. A large amount of time was set apart for model lessons on such subjects as Teaching History by Story-telling; History Lesson to advanced students; Climate and Production; Geography; Arithmetic; Malayalam Poetry; and Kindergarten.

In the exhibits that have been sent in from the various schools, we can see the difference in the minds that worked behind the exhibits. The careful examination of the various exhibits will be a great incentive and inspiration to the pupils as well as to the teachers, which will be productive of much good in the years to come.

Foreign Notes.

Indian Students in England.—The Sub-Committee appointed by the London Advisory Committee for Indian Students which it is pointed out is entirely unofficial, has presented to the Committee an interim report recommending firstly that students should be given the option of deciding whether the year prescribed for reading in chambers should be worked out in Britain or in India; secondly that they should be allowed to commence their chamber work before being called to the Bar; and thirdly that the rule of the Bombay High Court which requires a student to read in the Chambers of a European Barrister of ten years standing should be widened so as to allow students to read with Barristers of recognised standing of any nationality.

The Advisory Committee has approved these recommendations and has submitted them to Lord Crewe for consideration.

The late Sir William Lee-Warner.—The death is announced of Sir William Lee-Warner, certainly one of the best known names in Anglo-Indian history. Sir William retired from the India Council only last year after ten years' membership of that body. Born in 1846, he entered the Indian Civil Service in 1869 after a brilliant academic career and retired in 1895, much before his time. He held

various revenue and political appointments in India including those of Collector of Poona and Satara, Political Agent in Kolhapur, Secretary to the Government of Bombay in the Political and Judicial Departments, Chief Commissioner of Coorg and Resident in Mysore, and Additional Member of the Viceroy's Legislative Council. Sir William Lee-Warner was a member of the Education Commission and of the Finance Committee, and after retirement received the appointment of Secretary to the India Office in the Political and Secret departments. In the last year of his membership of the India Council he was elevated to the dignity of its Vice-President, an office now held by Sir Krishna Govind Gupta. Sir William was decorated with the C.S.I. in 1892, with the K. C. S. I. in 1898 and the G. C. S. I. in

1911. He was a vigorous controversialist on Indian questions on which he uniformly espoused opinions held by our countrymen to be unsympathetic and reactionary, and he was a prolific author. His best known books were the biography of the great Viceroy Lord Dalhousie and the treatise on the Indian States while his little book 'The Citizen of India' was made well known by the assiduous efforts of the Government to see it introduced as a school book. Sir William made several contributions to the Cambridge Modern History, the Imperial Gazetteer of India and the Dictionary of National Biography.—*The Leader*.

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The Educational Review.

We have great pleasure in drawing the attention of our readers to a new feature in the *Educational Review*, introduced this month, the article on Educational Topics by a Professor. We hope to make it a monthly feature if possible.—Ed., *E. R.*

We reprint in this number the Presidential Address delivered by Mr. Justice Shah Din on Muhammadan education at the twenty-seventh session of the All-India Muhammadan Educational Conference held at Agra on the 26th, 27th and 28th December. We commend it to our readers as a model of outspokenness and candour as well as a calm statesmanlike discussion of the educational position of the Muhammadan community of India, without the false sentiment and the false pride which characterise the hysterical utterances too common now-a-days, not only in Muhammadan but also in Hindu Conferences. There is no glorification of the past at the expense of the present, no talk about the greatness of the knowledge and the methods of the Moulvi, such as we have recently too often heard about the Pandit and his encyclopædic wisdom. He rightly deprecates the old training which produces "an excess of zeal in the observance of religious ceremonial" manifesting itself "in extravagant forms to the utter disregard of the spirit underlying their religious precepts." He goes further and denounces those that go through the University and pass examinations with credit but without really assimilating Western culture. Of such he says: "In the student world he has the reputation of being a walking encyclopædia of knowledge and his college fellows look up to him with

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nervous respect as a man of great erudition. But scratch him and you will find a barbarian, without a vestige of real culture in him, and he is none the less a barbarian because he carries a mountainous load of books on his back." This criticism is equally true of Hindu scholars. Would that it were possible to find a Madras Justice who could speak equally frankly!

Mr. Shah Din discusses the question of the projected Muslim University with the same sound sense. He is quite free from the illusions which vivify the souls of the more rampant supporters of the movement for denominational Universities. "The proposed Muslim University is a special measure of limited application, and in face of existing facts you will be unable for a long time to extend its jurisdiction over a very wide area. But even if this were feasible, I would seriously question its desirability, as it seems to be that in order to take their full share in the organic evolution of modern India the younger generations of Mussulmans must keep in touch with those of the other leading communities." Quoting from a previous utterance of his, he says: "Already the Hindus and Muhammadans stand apart with the impassable stream of antagonistic religious and social opinions running between them, across which it is becoming more and more difficult for them every day to shake hands with even a show of cordiality. Is it then really to our common advantage that we should laboriously try to add to this distance of feeling by starting and replenishing separate educational institutions where the Hindus may learn to become more exclusively Hindu and the Mussulmans more rigidly, and it may be, more fanatically, Muslim? The Government schools have created for us a common platform, on

which the rising hopes of both the communities can meet in familiar school-boy intercourse and learn one another's failings and virtues—where the clash of interests may be softened down by mutual concessions gladly made; where the Hindu may learn the pluck and imperious self-respect of the full-blooded Mussulman, and the Mussulman profit by the perseverance and accommodating pliability of the meek Hindu. Let us not cast this blessing disdainfully aside." We would add, 'let the Mussulman learn toleration in matters of belief and the Hindu toleration in matters of social life by rubbing shoulders with each other.'

While condemning unhesitatingly the multiplication of denominational universities he advocates some very practical measures for the amelioration of the state of his co-religionists. The first and foremost is the establishment of an extensive system of scholarships and this is very necessary for the development of other Indian communities as well. The next is the encouragement of the study of learning science in colleges in preference to history and philosophy, for "this is emphatically an industrial age." The next is the education of women. "No scheme of national education will be complete among the Indian Mohammedans which does not make ample provision for the education of women on modern lines One thing is, however, clear, and that is that the purely Eastern modes of education would be stale, insipid and unprofitable in the case of our women as they have proved to be in the case of our men, and the community must make up its mind once and for all to allow its girls to be instructed in the elements of knowledge according to the more scientific methods of the modern age."

There is no important failing of the Mussul-

man Indians—and what he says of Mussulman Indians is equally true of Hindu Indians—which Mr. Shah Din does not touch on. He specifically condemns 'the want of self-discipline' which lies at the root of most of our national defects, want of self-discipline in ritual matters, and in our refusal to organize our charities, and prevent them from being frittered away as they are. He notes the same want of self-discipline in vernacular poetry, which leads to "the highest conception of human beauty" as "a freak of nature with the mouth little bigger than a geometrical point and a waist thinner than a hair." He finally reminds his fellow Muhammadans that they have peculiar opportunities in India, for "the commingling of the Saracenic and the Aryan civilizations in India marks the confluence of two intellectual streams of great potency, and the future fertilization of the Eastern mind under the stimulating and refining influences of Western culture may well be regarded as a matter of sincere self-congratulation."

Notwithstanding this noble call for the union of the Muhammadan and Hindu culture, the Conference was guilty of discussing a proposal which would accentuate the differences between the two communities; for there was raised by Sheik Muhammad Abdullah, LL.B., of Aligarh, a protest against prescribing the Hindi alphabet in readers in Primary Schools in reference to Urdu. This question of script, Nagari v. Arabic, is a very sore one in Upper India and unluckily that sentiment which Mr. Justice Shah Din rightly denounced as the source of mischief in matters vitally connected with the progress of the nation as a whole has in this matter as

others widened the gulf between Hindus and Mussulmans in those provinces. A novel solution of the problem we can offer to both contending parties. Why not give up both scripts and adopt the Roman? This proposal may appear absurd on the face of it. People may say, "are not all books in either script?" The reply is this, that as printing in Roman is absurdly cheap as compared with printing in Nagari or Arabic script, Primary School books can be easily reproduced in Roman and the Urdu and Nagari ones may be allowed to die. Those that want to go beyond the primary stage and read sacred and profane Urdu and Hindi literature, i.e., other than Primary School books, may pick up the script they want when they go to the High School. While on the subject, we would also record a wish that as a result of Mr. Shah Din's advice, a real rapprochement may be brought about between Mussulmans and Hindus. The first step towards such a desirable consummation would be to give up the pretended differentiation of Urdu and Hindi into two different languages. For theoretical and practical purposes they are really one language; the man who speaks Urdu imports into his speech a number of Arabic locutions and the man who speaks Hindi drags in a number of Sanskrit words and phrases. It is the jealousy between the sacred language of Muhammad and Manu that is responsible for this philological absurdity of making one language into two and make it a bone of contention!

The self-respect of modern India has received a great stimulus in the fact that Rabindra Nath Tagore has been awarded the Nobel Prize this year. The prize was instituted by

Alfred Bernhard Nobel, the Swede, who invented that great engine of destruction—the Dynamite—who with grim irony left a large sum of money for awarding prizes to scientific discoverers and writers of an 'idealistic tendency.' The Nobel Prize is a great international bond, because it has been awarded to men of various countries year after year, England, France, Germany, Norway, Spain, Italy, Poland. And now the turn of India has come and all Indians can now feel that in the Republic of Letters there are no distinctions of caste or colour. In the matter of writing of an idealistic tendency, it is no wonder that a prize has been awarded to India,—the wonder is it was not awarded earlier, for idealism is our special field, so much so that many feel it is our national bane. If Rabindra Nath Tagore was not given the prize earlier, it was because he wrote in Bengalee, a language not known to many. But when he translated some of his works into English, it was immediately recognised how eminently his writings satisfied the conditions of the Nobel Prize which was immediately awarded to him.

In the 'Cambridge Notes' of the *Athenæum* of December 27, 1913, appears a thorough-going condemnation of the work of Indian students in England, which is so important that it must be brought to the notice of our readers. "One question will at no distant date press for solution, the presence of Indian students in our Universities. The Government of India has encouraged students to come to England with a view of taking a degree at Oxford or Cambridge. It was hoped that by this means Indians of culture would be able to carry

The *Athenæum* on Indian students in English Universities.

home English ideals of life, and foster such a spirit as our Public School and University life are supposed to engender. Quite recently Lord Morley approached the tutors, and suggested that, instead of Indians collecting in one or two colleges, each college should agree to take a few each year. Thus, he, no doubt, had reason to hope that the natives of India would cease to live together and only influence one another, and would gain by intercourse with European students. But it is very doubtful whether this can ever be the case. Except in a few instances, the native of India does not amalgamate with his fellow-students. He is not annoyed or molested; European under-graduates do not even consciously avoid his society; but generally he drifts away from the life of the place, and lives his own life with his fellow-countrymen. University experience gives him no greater appreciation of England, and certainly does not stimulate his loyalty. At most he goes to the Union and Debating Societies, and is listened to with courtesy, and perhaps with interest. This does not enable him to understand the English outlook, but merely to get a totally wrong impression of the political thought of the country. It is also an undoubted fact that, despite certain individual successes, there have been a large proportion of Indians who gained nothing from the intellectual studies of the place. The Indian is further severed by his amusements from the average under-graduate. Neither are his ideas nor his desires the same. It is no wonder if, alone often in a foreign country, with no restraints, social or moral, he does not spend his leisure hours as healthy Englishmen in the University do. On the whole the question arises whether the Government ought not to abandon their

policy of encouraging students to come to England. Whether they get any good by coming to Cambridge is problematical, and whether the University does is certainly not a problem at all." Probably there is some exaggeration in the above account, we almost wish it were so; but judging from an intimate knowledge of many "England-returned men," as they are called, we believe there is substantial truth in the charges above made. This is, no doubt, partly due to the overwhelming desire, which every one in a far off foreign land must feel to fraternize with fellow-countrymen, for nothing develops the Swadeshi feeling so much as life amidst foreigners who do not understand one's feelings and tastes. But unless our young men who go to England learn to appreciate 'the English Outlook' and assimilate English ideals of social, political and intellectual life, they will not have really received an English education. They must learn to get over the longing to associate with their compatriots, for otherwise they will have merely lived in an India in England and return no better, no wiser, no more useful to themselves or others than when they went. Now that the evidence before the Public Service Commission has brought to much prominence the peculiar advantages of English education, English School and University atmosphere, and English training, it is the sacred duty of our young men who go in large and larger numbers to England year after year to bring back with them as much of these advantages as possible.

That the climate of the world has undergone secular variations is very well-known, old lake beaches and glacial moraines being, among other things, eloquent testimony

of the fact. Mr. Huntingdon and others have credited these variations with being the causes of the great migration of tribes in the past history of the world—more especially of Asia. So far scientists have not yet been able to find any periodicity in these changes; and though the existence of various periods have been suspected and hence attempts have been made to connect them with periodic phenomena of the sun, like the solar spots and so on, all these attempts have proved futile. What is known definitely is that "climatic changes were several, and probably many. Similar simultaneous changes occurred over the whole earth simultaneously. These times of warmth or coldness were unequal in intensity and duration, and of irregular occurrence, and, lastly, they have taken place from very early, if not from the earliest-geological age down to the present." Various theories, some impossible, have been promulgated to account for them, but only three of them have, at all, stood the fire of criticism. Croll's theory of changes in the eccentricity of the earth's orbit, Tyndall's theory of selection in absorption and variation in amount of carbonic acid gas, and the theory which would refer these changes to variation in solar conditions. Prof. W. J. Humphreys, according to *Nature*, December 25, 1913, has now promulgated a new theory. He regards volcanic dust as an active agent in the phenomenon we are considering, the fine dust intercepting the incoming solar radiation much more than the outgoing radiation from the earth. After an elaborate study of various heat records, he concludes that "it appears that the dust in our own atmosphere, and not the condition of the sun, is the controlling factor in determining the magnitudes and times of occurrence of great and abrupt

changes of isolation intensity at the surface of the earth." He is not dogmatic but shows true scientific caution in his assertions, for he says "that volcanic dust must have been a factor, possibly a very important one, in the production of many, perhaps all past climatic changes.

For the first time in India has a Science Congress been organized and it met in Calcutta on the 15th, 16th and 17th January and discussed various questions. We suggest that as is the case with the British Association for the Advancement of Science, the promulgation of scientific ideas among the lay public will be the first item in the programme of the Congress. Of course there will be technical papers, beyond the scope of the layman. But the layman, much more in India than in England, ought to be reached by the leaders of science in India, for even among educated people, very crude notions prevail with regard to the ideals of modern science and its place in national education. The patronage of science by the State, by the wealthy and by the public at large has elevated the Germany of Austerlitz into the Germany of to-day; and if India is to become prosperous at all, it will be only by the infiltration of scientific ideas in the minds of the people, by the application of scientific methods to Indian agriculture and Indian industries, by scientific investigation of India's potentialities of wealth and scientific development of such potencies into actualities.

The Presidency of Madras might congratulate itself on the selection of one of its officers in the Educational Department for the office of the Director of Public Instruction, Central Provinces. Mr.

A Compliment
to the Madras
Educational
Department.

Arthur Mayhew has been chosen by the Government of India, to control educational work in the Central Provinces, a work for which he is admirably fitted by his great ability and experience. His work as Inspector of Schools in this Presidency has given keen satisfaction and he has earned quite a reputation for himself, by his sympathy, and tact. His zeal for the introduction of progressive methods of instruction has made him particularly useful to the educational world in Southern India, and many a teacher can bear unstinted testimony to the guidance he has received from him in his work. Mr. Mayhew is no faddist and the advocacy of new methods has always been tempered in his case, with a sympathetic realisation of the difficulties of the present environment. There cannot be a more striking proof of the appreciation of his work than the fact that some years back the Nizam's

Government placed the re-organisation of its Educational Department under his sole charge and during the period the administration was in his hands, education made rapid progress in the State and entered upon almost a new era of development. It is known that several other Native States attempted to secure his services for similar work,—the State of Cochin actually applied for them and the officer's name was mentioned in connection with the Inspector-Generalship in Mysore. We have no doubt that a number of beneficent educational schemes will result from the elevation of Mr. Mayhew to this distinguished office in Central India. It has often been observed that Madras is far ahead of the other Provinces in India in the organisation and methods of elementary education and we take it, this instance is a further exemplification of this opinion.

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COMMERCE AND THE UNIVERSITIES*

By W. J. ASHLEY.

IT would be hardly possible for anyone, who keeps his eyes open, to travel round Germany just now and not notice in several of its great cities—in Berlin, Cologne, Frankfurt, Leipzig, Munich, Mannheim—a number of educational institutions obviously rather new, and, so far as buildings are concerned, some of them quite imposing. If he heard that they were called *Handelshochschulen*, and did not happen to know that *Hochschule* is the

official designation in Germany for the very highest type of educational institution, he might come away with the notion that they were glorified day schools for boys, or perhaps that they were of the nature of evening technical institutes. But if he chanced to be about some morning, at the beginning of an hour, and watched the streams of young men as they poured in and out, he would begin to suspect something more considerable and more foreign to his previous experience; and he would suddenly get the key to the mystery when somebody spoke of the new institutions, by what is now becoming their popular title, viz., as “commercial universities.”

The *Handelshochschule* of Germany is an institution to which young men who have passed the leaving examination of the secondary schools, or who have been for two years in a business house, come—most of them well over the age of nineteen—for a couple of years of commercial training. The students in a majority of instances are the sons of business men, and almost all of them look forward to obtaining, in no long time, responsible positions in the business world.

If from Germany the traveller goes to America, he will there find what is at bottom an identical phenomenon, but taking a somewhat different form. He will find Departments

* Reprinted from the “International Review of Commerce and Industry,” Dec. 1913, London, by the kind courtesy of the Editor.

or Schools of Commerce or Business Administration, or some similar title, forming integral and important sections in almost all universities of the first rank, and most conspicuously in the great State universities, such as those of Wisconsin and California and Illinois, which are most characteristic of the American people and most in touch with its needs and aspirations. Sometimes an old and powerful institution, such as Harvard, can make its School of Business Administration a *graduate* department, parallel to its Law or Medical or Divinity School, and only admit students after they have already taken a degree in Arts or Science. But most American universities put their commercial courses, for those students who choose to select them, into the last two years of the four years' curriculum for the bachelor's degree. And at Harvard itself a whole range of very concrete economic studies, which come into close contact with practical affairs, are open to students while they are still undergraduates.

Here, then, we have a phenomenon common to both the great countries from whose commercial rivalry England has most to fear: a phenomenon not obscure or poked away in a corner, but extensive and conspicuous and full of exuberant vitality. The new institutions in Germany and America are not the creation of well meaning Government officials, outside the business world; and they are altogether too big and too evidently thriving spontaneously to be attributed to the enterprise of self-advertising professors. They have obviously come into existence because the business community in each country, rightly or wrongly, thinks it needs them. In both countries, it is true, there are business men still to be found who pooh-pooh the whole notion of commercial training; but

there is a much larger volume of opinion which thoroughly believes in the new movement.

As to the United States, to anyone who knows that country this is too evident for argument. The State universities are largely dependent on annual appropriations from State legislatures; they are governed, so far as their finances are concerned, by bodies of publicly appointed trustees; and no one can suppose that their calendars would exhibit every year a lengthening list of commercial courses unless the action of the universities were thoroughly popular with parents and with tax-payers.

But more significant still is the recent educational history of Germany. We in England are apt to suppose that the whole of German education is thought out by some sort of sagacious central authority, and that all its stages and branches are systematically coordinated by official wisdom. The fact is that official wisdom in Germany has again and again been conspicuously lacking in this matter of education, and the classes concerned have had to take it into their own hands and provide for their needs outside the existing official system. For instance, when the age of machinery came, the German University somehow could not or would not open its doors to the new technological studies, and widen its range by establishing engineering departments; and, accordingly, great independent technological institutions had to be established outside, such as the famous college at Charlottenburg. And precisely the same thing happened, a couple of generations later, when Germany's trade and industry began to expand on a vast scale, and the rapidly growing business class looked round for an education which would at any rate not unfit

its sons for their future careers. The German universities, they said, could train lawyers; the technological colleges could train engineers; but commercial life calls for other aptitudes besides a knowledge of law and engineering; and for these the commercial community, by one means or another—by endowments from wealthy individuals, by grants from chambers of commerce, by subsidies from municipal taxation—have now made their own provision by creating the new *Handelshochschulen*. These new institutions have been so solidly equipped, and have obtained men of such high repute for their "Directors of Studies," that the Ministers of Education have had their hands forced, and have been compelled to give official recognition. The "Commercial Universities" have in no sense been created from above; they have forced their way, in spite of official and academic coldness.

But while the German development testifies to the genuineness of the movement, it does not prove that it has there found the best organization. I cannot help thinking that, in this respect, America presents the better example. Surely, unless there is some overwhelming reason against it, it is much more satisfactory that all the young men who seek the highest type of training for their subsequent careers, whatever those careers may be, should receive it in wide, all-embracing universities, where they will meet students of diverse origins and manifold interests, and get rid of their class narrownesses. The forces tending in the direction of specialization are so pressing nowadays that they need to be counteracted by all the influences that can enlarge the sympathies and promote mutual understanding. I have no space here to discuss the real or imaginary dangers to be found either in the German universities or in the

older English universities: in America it does not seem to have occurred to anyone either that the universities would injure commercial students or that commercial students would injure the universities.

My purpose in this article is to ask English business men whether the time has not now come when it will be worth while, even for them, to take "higher commercial education" a little more seriously. And when I say "seriously," I mean not as something that has to do primarily with another social class, but as something intimately affecting themselves and their kinsfolk and their immediate circle. Commercial education has too long meant in England a more or less philanthropic undertaking, to be encouraged by guinea subscriptions and ten-shilling prizes, and carried on in evening classes for the production of efficient clerks—an affair of typewriting and shorthand and book-keeping and commercial French. All this is very useful, no doubt, but it is on an altogether different plane from what the Germans and Americans are doing. Commercial education will never be taken "seriously," in my sense, by the directors and managers of business concerns until they begin to think of it as having to do with *their own sons*.

I am myself an academic person; and when I argue for "commercial education of a university standard" I know perfectly well that I can be regarded, fairly enough, as simply arguing for my own "show." Yet I have knocked about the world a good deal; I have taught young men in the oldest and newest of universities—Oxford, Toronto, Harvard, and Birmingham; and I have been favoured by the friendship of a good many business men. I think I know the business man's point of view, and if he will take the

trouble to read what I have to say, I think I can make out a good case for his consideration.

I would ask business men, in the first place, who have got sons approaching the age of seventeen and destined for a commercial life, if they quite know what to do with them. A boy goes to a public school or grammar school; does not particularly distinguish himself in classics or mathematics, but gets, let us say, into the Fifth. Soon after he reaches seventeen the father feels it is about time to think about his lad's future. Until he is twenty or so, he can seldom be given any particularly interesting or responsible or even instructive duties in the office or works. How are the years to be got over between seventeen or eighteen and twenty or twenty-one? The boy can rarely be kept under the father's or uncle's eye: with the increase in the size and complexity of undertakings and the substitution of the joint-stock company for the private firm, personal supervision becomes every year harder to arrange. And to see that a young man, away from the father's eye, is neither neglected nor unduly favoured is really, in many cases, exceedingly hard. What I have ventured to say to parents who have consulted me about sending boys to the Commercial Faculty of the University of Birmingham—and, I doubt not, the representatives of some other universities would say the same—is this: I do not pretend that I am quite sure I can do the ideally best thing for your particular boy, but I am confident that, unless you are most fortunately situated, I can do a good deal better for him, during the years between school and business responsibility, than you can.

And then I would ask this question of

heads of business: Do you find a sufficient number of young men coming along whom you can put into positions which require judgment and initiative? A certain number of men of force and ability will always be making their way upwards from the lower ranks. Every such man ought to be welcome and find a career. But are there enough of them? And is it not unfortunately the case that the duties of a subordinate are usually of such a kind as to deaden the spirit of initiative and the inclination to bear responsibility?

If the reader can answer both the two questions I have put in a way satisfactory to himself; if he really knows how to give his own son a business training, and if he is never at a loss to find the right sort of young man for businesses with which he is connected—then, so far as he is concerned, I have nothing more to say. But if his experiences are such that he is inclined to recognize a *prima facie* case for consideration, then I would go on to ask whether there are not some other and more general reasons for "taking commercial education seriously." Here is this vast field of human activity which we call "business." More and more it dominates human thought and action: more and more does the production come to depend on markets, and more and more does the securing of markets depend upon economy of production. Everywhere the same questions of policy are presenting themselves to business men—questions of the character and scale of manufacture or supply, questions of capitalization, questions of lay-out of works, questions of marketing and sale, questions of price, questions of divisible profit and reserves, questions of labour organization, and so on and so on. Is it not reasonable to suppose that the training of the men

who are going to decide all these questions and guide all these complex activities should have some sort of relation to their future tasks? And if so, is it not the duty of the universities to come to close quarters with so large a part of national life? Or are the universities to remain the places of education of schoolmasters only and clergy and civil servants?

I must hasten to say that I by no means wish to imply that universities, as they are, are already competent, in every case, to handle the new problem. A curriculum has to be framed, and the necessary teaching provided for, which shall be designed for the particular purpose—viz., to turn out graduates who, while men of cultivation and men of public spirit, shall also be efficient business men. Culture and Utility are by no means incompatible, but we must no longer trust that Utility will make its appearance as a by-product: Utility must be frankly aimed at, with as much Culture as possible (and that is a good deal) as a by-product. For this purpose it will not be enough simply to make a fresh grouping of existing studies—economics, law, geography, history—in the forms and spirit in which they have hitherto been taught. New subjects will have to be introduced and given a large place, especially Accounting; and the old subjects will have to be developed in new directions. Economics, in some sense, must form the centre of the whole group of studies. But economics must be greatly widened in the direction of the concrete study of actual business conditions. And by the side of *political* economy, which looks at things from a national or social point of view, a study must be created, call it what you will, which avowedly looks at things from the point of view of the *business concern*.

I am glad to find that the conclusions which were impressed upon me by a survey of the situation, both in its business and in its scientific aspects, when I came to Birmingham, and which I have tried to state on more than one occasion, have been confirmed by the experience of the German commercial universities. A reader who will compare my articles on "A Science of Commerce" in *Science Progress* for July 1906, and on "The Enlargement of Economics" in the *Economic Journal* for June 1908, with the recent writings of Professor Nicklisch on "Betriebslehre," and the discussion to which they gave rise, will see that English and German teachers have been independently moving in much the same direction. But to construct this indispensable "Science of Commerce" or "Course on Business Policy" or "Privat-wirtschaftslehre" will necessitate the attentive examination of actual business practice and results. It is not to be found in existing text-books, nor can it be spun out of a few simple postulates by abstract reasoning. The materials lie all around us in the trade and financial journals, in the reports of the meetings of companies, in the proceedings of technical societies. The function of the economist is to collect and classify facts already in large measure observed and recorded, and to present them in a connected and self-interpreting sequence.

The prime object of all the highest sort of commercial training is not so much to communicate facts or teach dexterity in the keeping of accounts as to elicit and develop business judgment. And the most essential thing to be done is to make the young man who is "going into business" realize that business is an exceedingly interesting thing—interesting, I mean, intellectually. For

some time, no doubt, after he "goes out into the world," he will find his work lie along certain prescribed lines, without much apparent scope for originality or independence. It is often this narrowness of the initiatory routine which chokes any interest a young man may have brought to his new duties. But his faculties may be carried unblunted through this dull opening stage if he can be made to see that, behind all the details, there really are involved large questions of policy. It will add enormously to the interest of a young business man's life if he can start with the ever-present thought that the management of a business—whether financial or technical or commercial—is nothing but the decision, one after the other, of a series of problems. No academic study can show just how these problems are to be solved in every particular case, but it can awaken a man to the issues involved; it can help him to perceive and weigh the considerations to be taken into account.

It is not, however, my purpose to sketch the ideal commercial curriculum. I have already tried my hand at this in the articles before referred to and elsewhere, and at the University of Birmingham I have had an opportunity to carry out my ideas. But there are others at work. There are now Faculties of Commerce not only at Birmingham, which was first in the field, but also at the Universities of Manchester and Leeds, at the National University of Ireland, and at Belfast University. There are courses for a like purpose at the London School of Economics; there is an Economics Tripos at Cambridge; and quite recently, I understand, Oxford has introduced a Commercial diploma open only to graduates. Between the various programmes, on paper and still more in practice, there

are wide differences. In the proper place I might have a good deal to say by way of criticism. But they are all aiming at the same thing, though each institution has naturally the needs of its own particular environment to consider—Birmingham, for instance, the manufactures of the Midlands, Manchester the cotton trade, London the operations of finance. All I want just now to indicate is that institutions are already in existence in this country, doing for some few dozens of students and with limited means what a score of American and German colleges are doing for thousands and with ample equipment. Would it not, then, be worth while for the English business man, whose son is soon about to leave school, to make some enquiry as to what this or the other English University may now be able to do for his son in the way of a commercial training, and compare it with what he can do himself? And would it not be worth while for the managers of business concerns, on the look-out for young men who will develop into effective secretaries, or works managers, or heads of departments, or foreign representatives, to put themselves into communication with universities that have taken commercial training in hand, and learn whether they have any suitable candidates to propose among recent graduates? Here in Birmingham, in the Faculty of Commerce, our progress during the last ten years has been slow but solid. We have turned out some able young business men; we have gained, I think I may fairly say, the confidence of the leaders of the business community, men who are actually running large concerns; and we are beginning to supply the great companies around with the recruits of whom they are in need. Faculties of Commerce elsewhere,

a little later in their start, are likewise making real advance. I have been examining lately in Ireland, and I have been cheered by seeing the very practical manner in which two of the colleges of the new National University—those at Dublin and Cork—have taken the enterprise in hand, and are seeking to get into intimate relations with Irish business. But all that Faculties of Commerce, alike in England and in Ireland, have hitherto done has been miserably small as compared with our American and German exemplars. This is because, with the exception of a few specially open-minded men here and there, like the late Mr. Arthur Chamberlain, the commercial world—I must say it once more—has not hitherto taken the movement anything like so seriously as its foreign rivals. And yet business is business, all the world over: and these foreign rivals of ours are not exactly fools.

HANDWORK IN SCHOOLS.

IT is now recognized by all up-to-date educationists that in the early, as in the later stages of education, the work of the hand is more important than reading books and listening to lectures as a means to the development of the brain. The two books* under review are eminently fitted to guide teachers of schools to organize and conduct a good, practical scheme of handwork in schools. The first book deals with the training of children of all ages. It begins with the Kindergarten stage and aims at making

* (1) *Handwork and its place in Early Education.* By Laura L. Plaisted 4s. 6d. net. Clarendon Press, Oxford.

(2) *Educational School-gardening and Handwork.* By G. W. S. Brewer. 2s. 6d. net. Cambridge University Press.

Froebel's gifts and occupations, which have now become a dreary monotony in schools, but a real, intelligent method of child-training. This is followed by working with paper—rolling, twisting, crumpling, tearing, folding, all done with an intelligent end in view. Then follow modelling in paper and cardboard of objects varying from squares to Burn's cottage. Light wood-work is then taken up leading to the making of furniture for Doll's house. Then comes paper-cutting and drawing. After this comes the reproduction of primitive industries, which is the result of Dr. Dewy's experiments at Chicago, where he introduced them into his school as active centres of scientific insight into natural materials and processes, points of departure whence children shall be led out into a "realization of the historic development of men." Two chapters deal with the correlation of handwork with history and geography, introducing such subjects as castle building, military engines, armour, Kaffir kraal, Arab encampment, an Indian village, etc. Basketry, weaving, modelling in clay and other plastic material, pottery, and needle-work are other subjects discussed. Almost every chapter of this interesting handbook, which ought to be in the hands of all teachers in schools, contains a list of books of reference.

Mr. G. W. S. Brewer's book is, in its first half, a clever attempt to correlate handwork in the garden with nature-study, arithmetic drawing, mensuration, composition and cookery. The latter part of the book deals with wood-work and metal work, in connection with horticultural appliances. Mr. Brewer is Inspector of Educational School-gardening, Somerset County Education Committee. We wonder why it is that, whereas in India, where there is no want of gardening

space round school buildings, Inspectors cannot feel any part of Mr. Brewer's enthusiasm, why they do not encourage Indian schoolmasters to go out of the beaten track of lecturing and blackboard illustrations, why they do not secure grants to schools for the encouragement of gardening in schools. When in England such a great attempt is made to make school-life bright, school work interesting and school children happy and intelligent, why should our children tread painfully the path of cram and come out of school less intelligent than when they went into it?

AN INDIAN EDUCATIONIST.

EDUCATION IN HYDERABAD (DECCAN).

THE question of education has been holding the attention of Hyderabad State for some time. It is a matter of regret that the biggest of the Native States of the Indian Empire should have fallen low in the estimation of the people, as one of the most backward of the States. Education, which is the only means of dispelling ignorance and attaining enlightenment and culture, has been too long neglected in Hyderabad. People have not eagerly taken to education because the State language has been mostly recognised and maintained in Urdu, and educational qualifications for entrance into the State service have been lightly regarded—a little acquaintance with the elementary knowledge of Urdu, how to merely read and write well, being sufficient to secure even the highest office for a person of high birth. A high family pedigree is a better qualification than higher educational attainments. Just and proper recognition of merit is not vouchsafed and

there is no sufficient stimulus for creating a passionate desire among the subjects to receive higher education. Accordingly the desire for it is marred by the frequent examples of unjust and impartial treatment which is generally accorded by the officers of the State. The statistics of persons holding responsible administrative posts of such important departments of the State as Revenue, Judicial, Police, Abkari, Customs, etc., will show what a small percentage of them have acquired even a rudimentary knowledge of the elementary sciences essential for the prudent living of man. Their mind and intellect are not allowed to expand and comprehend the vital questions of the daily round of life. They are evidently not conversant with the marvellous changes that take place from day to day in the outside world. Above all it may even be said without exaggeration that such guiding principles of life essential for the efficient discharge of their proper duties—as morality, moral courage, conscientiousness and patriotism, are not held up prominently in view. These expressions of private opinion, however, must not be misconstrued as disparaging or vindictive.

His Excellency the Viceroy appears to have taken a sympathetic view of the present state of the Deccan, as was observed during his recent brief visit. He impressed upon His Highness the Nizam the extreme necessity of devoting all his youthful energies to the progress of his vast territory which has unfortunately been falling behind in the forward race of nations. The far-sighted statesman rightly hit upon the want of education as the main drawback which has incapacitated H. H.'s subjects from marching with the progress of the times as contrasted with the much smaller States of Mysore and Baroda. Beyond

all doubt education is the remedy for broad-casting culture as the only incentive to the prosperity of a people.

The question is, how is education to be advanced? Many an educational propaganda has been launched in Hyderabad in the last decade, alterations and modifications overlapping each other in rapid succession even before the schemes had got to work. They were the outcome of persons without sufficient up-to-date experience of modern educational methods. There have been too many frequent changes in the chief office-holders of the Educational Department to arrive at any mature and definite policy. Nawab Imadul-Mulk, the present Advisor to the Minister of H. H. the Nizam and the late member of the India Council, was for a long time the Director of Public Instruction, but it cannot be said that he has achieved as much in advancing the condition of education in the State as was probably expected of him. He was followed by Dr. Sirajul Hassan, chosen from the Finance Department of the State. Prior to joining the Secretariat he acted for some time as Inspector of Schools; yet he did not acquire enough experience, nor had he sufficiently tackled the important educational questions of his day to be able to adopt a definite policy. To name another instance of such a chequered official career, Mr. Habibuddin, the present Accountant-General, was for some time a Revenue Officer, then an Inspector of Schools, and lastly an Accountant-General. On account of the diffidence obtaining as to the practical utility of the schemes that were devised Mr. Mayhow was brought over to the State from the Madras Educational Service. He had long been devoting himself to the study of the educational system. He toured throughout the country, inspected

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the educational institutions and has made many excellent propositions to be worked out on entirely new lines. But his stay, it is to be regretted, had been too short for any definite policy to strike root. The Educational Advisor left the State after a stay of two years and having given a volume of advice as to the best methods of educational work. He was followed by Dr. Sirajul Hassan who has been elevated to the High Court Bench as if his past experience has been such as to befit him for this new office. The Director having been transferred to the Bench, a Judge has been brought in from Hindustan to take the vacant office of Directorship. Energies are avowedly misdirected and experience gained is outrageously disregarded by these anomalous changes. It is no doubt eagerly hoped that the present office-holder will devote his youthful energies to the working out of a definite course of sound policy. The fact is that no person with mature educational policy has ever been retained in the important offices of the Department for a sufficiently long period to enable him to thoroughly work out any definite course of education in the right direction. It will generally be seen in the most advanced countries that the Inspectors and Director of Public Instruction are men who have spent their services only in the educational line. It is the long experience gained by constant touch that will enable them to successfully direct the course of education.

Coming to the educational policy of the State during the last decade and the change through which it has passed, it may be briefly said that Dr. Sirajul Hassan formed a scheme for strengthening the staff of the High Schools with better qualified teachers and masters drawing high salaries without providing for

a better check to guarantee their proper working. Inspectors of Schools in H. H. the Nizam's Dominions are a misnomer. They are not in truth periodical Inspectors of Schools with a view to the maintenance of the efficiency of the standard of teaching but rather managers and media between the Director and the Headmaster. The Director's proposals had not been given effect to before Mr. Mayhew devised a scheme which contemplates employing European headmasters drawing unnecessarily high salaries for High Schools without providing an efficient check to guarantee their proper working. This had scarcely been given effect to when Mr. Latifi was introduced as Director. His ideas seem to be different from those of his ephemeral predecessors. He will of course take time to study the educational problem of Hyderabad before he can form any definite plan of working.

It may now be considered what shape the educational policy of Hyderabad should take in future so that it may advance with the times. While every district of the Madras Presidency can boast of one or more Colleges and every town one or more High Schools, H. H. the Nizam's State has but one college, and that with only a small number of students. There are not even ten High Schools, and those which exist are but poorly attended. Side by side with these High Schools teaching English as first language, as in the other parts of the Indian Empire, there are High Schools teaching the various subjects in Urdu only. It is needless to observe that the efficiency of their standard has deplorably gone down. Apart from these High Schools, in the mofussil of the Subahs there are Upper Middle Schools with oriental teaching, i.e., Urdu as the first language and English as the 2nd language.

The maintenance of this conflicting propaganda is futile and injurious in its effects. It looks as if the State requires half its citizens to attain proficiency in the English language and the other half in Urdu. It is obvious the two cannot render services to the State, in the official line, hand in hand, conflicting and alien as they are, unless the same student is taught in both the schools of learning.

Now the question might arise—which of the schools, Anglo-Oriental or Oriental, shall be abolished? The tendency in Hyderabad appears to answer that English should gradually be made the second language and Urdu the first language in all the schools of the State throughout the Deccan. If such a retrograde step is contemplated it will surely be but taking them back a century behind the times—back to the times even before Lord Macaulay advocated the cause of English education in his famous Communique of 1835.

That English education cannot be dispensed with has been too well established to need discussion now. English is the language of the world in which the world's business is carried on. The most advanced modern sciences are to be found only in the Western languages, especially English. It has had a peculiar influence on India. The spread of English education has opened up to India the storehouse of the wisdom and learning of Europe. The stronghold of superstition is being greatly weakened among the Indian people who are known to be most conservative and tenacious in retaining old habits and customs. To make Urdu the language of the State in its entirety will only be a retrograde step which must inevitably shut out its subjects from participation in the progress and light of the world. Education cannot be complete in Urdu however laborious an effort may

be made to translate the sciences and general literature of the English world. It will be beyond the limited scope of Hyderabad or any other Native State of the Indian Empire to prepare translations of the numerous publications pouring forth daily from the English Press, or to secure the necessary teaching staff required for its dissemination. The natives of Hyderabad are so very far behind the educated world that though Urdu has been the common language of the State for so many centuries there is not a single newspaper or journal that can pretend to rank amongst the first class newspapers of India. "Musheer-i-Deccan," the leading daily, does not answer the requirements of the educated public who therefore fall back upon the English periodicals and newspapers of Madras or Bombay. Every district and town in the Madras Presidency can boast of one or more vernacular journals, while not a single vernacular paper is published in the Deccan outside Hyderabad. This contrast is to be ascribed to the fact that English education has not made such strides in the districts of H. H. the Nizam as in those of the British country. It is only persons or communities that seize time by the forelock that can make any perceptible advance sufficient to attract the attention of the outer world. The English language cannot be dispensed with and education should start only with this idealistic view.

In conclusion, a few suggestions may be submitted. Educational qualifications should be impartially considered by legislators in making appointments to the State service and it should be clearly realised that education is valued above all other considerations. Officers in the Educational Service should be men of long experience, and their services should be exclusively devoted throughout to the

educational course. The Inspectorate should be recast rather than the Headmasterships of Schools. The services of educationists may be obtained from British India, but should not be dispensed with till their full period of service closes by retirement. A definite well-considered educational policy on the lines of that of British India should be steadily worked out. Oriental High Schools should be abolished and Anglo-Oriental High Schools only adopted and both improved and increased in number, each district having at least one. Similar Middle Schools should be instituted, one for each Taluk. After some lapse of time education may so spread that primary education may then be made free and even compulsory as in Baroda and Bhopal. We might then with some degree of confidence hope for the early establishment of a University in H. H.'s Dominions. This would be the very crown of all educational work in the State.

Education should be started with the Infant Standard followed by the Primary class, the A. B. C. of the common Urdu language and vernacular of the district being taught in these first two years. In the next three years, in the first three forms, the student should be given an elementary knowledge in the various subjects taught in Urdu only, English also being started and improved as far as the present Middle standard. Care should however be taken that the vernacular of the district is not at the same time lost sight of. Next the 4th, 5th and 6th Forms should prepare the student entirely in English for entrance upon the University course, the study of Urdu, Persian or Arabic receiving due attention. Such an educational course, as far as the School Final, is essential for placing a student in the position of making his way in the

struggle for life, or of entering the lower grades of the State service. The University course, coming after the School Final, will complete the student's educational career, and the Degree may be obtained after a period of 12 or 13 years, i.e., in his eighteenth year.

MOHAMED KAZIMALI.

HINTS ON EDUCATION IN GENERAL.

THE general knowledge of our students is neither wide nor deep. The standard of intellectual attainment is much lower than the intelligence and the application of our students warrant us in expecting. The education we are now being given has trained the intellect to look at life and its problems from a new stand-point, and has made the intellect itself a keener tool, but the quality of the intellectual work has not improved. The infancy of English education in this country is not the sole cause, nor yet the main cause, of this low level of achievement, for we have not been tardy in understanding and appreciating and applying some of the methods and results of modern thought. This defect is traceable to the view the average Indian has of the value and purpose of modern education in this country. He educates his son for no reason other than that a knowledge of English is an essential requisite for earning one's bread. He sees that his countrymen have respect for Government service and a glamour for the lawyer's profession, and that to enter either of these a graduate's degree is essential,—and so, he determines to give his son an opportunity to become a graduate. He thinks that those who, after getting into any walk of life, rise in their several callings to respectable positions, owe their advance-

ment to chance and luck. This refusal to believe in the marketability of solid worth makes him think that any expenditure on his son's education which is not absolutely necessary to see him through his examinations, is an unmitigated waste, and the average Indian, being very poor, thinks twice before making up his mind to part with the money, which, though it would make a scholar of his son, is in his own opinion unnecessary to make a success of him in life. If the son asks for a book, the question which the father puts to him is, not if it would be of use to him in his studies, but whether he could not do without it. Students thus handicapped cannot be blamed for not acquiring substantial knowledge in the subjects they study.*

The forming of regular habits is undeniably one of the main purposes of education. Our students, however, are as deficient in this respect as they are lacking in solid learning. We are as a nation extremely unpunctual. The cause of this vice is not an ineradicable tendency in us to be unpunctual, but only the mass of our people not having had till very recently clocks and watches to show them correct time. Watches and clocks are now coming into use gradually, and a generation or two hence the reproach of unpunctuality will, we may be sure, have lost much of its point. National traits take much time to get effaced, but the habits of individuals can be eradicated none too soon. Yet, how many parents are anxious to get a watch for their sons?

Once the student acquires desirable habits, it will not be long before he is able to turn

* See 'Indian Youths and Education,' by the present writer, in the *East & West of Bombay* (March 1912).

them to good account in his studies. Application will easily make of him an assiduous reader, and if his assiduity is supplemented by the judicious provision of the necessary facilities, it will be his own fault if he does not acquire solid scholarship. The facilities referred to are mainly in the way of books,—especially those which, in an easily available form, would give students the knowledge without which the instruction they receive would remain unsubstantial. In the course of his reading, a student, or for that, any reader, comes across ever so much of incidental matter about which it would be desirable, and sometimes essential, to have more of knowledge. Yet how many students have the facilities to acquire that amount of knowledge? Our parents, and ourselves too, think that whereas an annotation may contain answers for probable examination-questions, a dictionary contains none, and therefore prefer an annotation to a much-needed dictionary. How well advised would students be if, instead of wasting their money on worthless annotations, they bought a few of the reference-books that are now to be had in the market at remarkably low prices! While annotations would be of only temporary utility, reference-books would be of abiding interest and incalculable value. Let educated parents at least, who ought to know better, free themselves from the grip of the night-mares of examinations. A copy of the *Concise Oxford Dictionary* (3s. 6d.), one of Brewer's *Dictionary of Phrase and Fable* (Cassell, 10s. 6d.) and a small encyclopædia, would generally be enough to supply effectively the place of a host of ill-digested annotations, except in the case of old writers whose language may give some trouble. There can be no better encyclopædia,

considering the size, than the *Everyman Encyclopædia* (in Dent's 'Everyman's Library') which is now being sold in twelve volumes at a shilling each, and no student or lay reader will ever regret the purchase of the volumes.

If even the lay reader will find that historical and geographical atlases on modern lines will make even his newspaper much more interesting than it would otherwise be, the need of these to a student requires no demonstration. Historical atlases are not meant for only students of history; an ordinary reader comes across,—even in novels not specifically historical,—information about the history of a number of countries, and if only he keeps in mind and collates what he gets in dribblets he will in course of time have acquired a respectable quantity of historical knowledge. Thanks to the educational authorities, no student now is supposed to be without a geographical atlas of one kind or another. But it is only very rarely that we find historical atlases in the hands of even students who specialise in history. This is not due, surely, to the paucity of reliable atlases, or to their cost. Ramsay Muir's *New School Atlas of Modern History* (Philip, 3s.) treats, with masterly ability and almost cyclopædic completeness, of the history of Europe, and pays special attention to the history of Great Britain and Ireland, and is undoubtedly a marvel at three shillings. A very serviceable classical atlas is the one in 'Everyman's Library' (1s. a vol.); and in the same series is found a good historical atlas for Asia. These it may be said are indispensable to an average student.

The Indian student labours under many disadvantages, and the most prominent of these is the total absence of facilities for get-

ting ocular knowledge of things which play prominent parts in modern life. It is not all of us who are able to have a good look at an aeroplane or into a modern man-of-war, or at the effects of a war-campaign, or at the mounds and fossils of anthropological interest, and yet how interesting and instructive is the knowledge derived from personal inspection! We have to gather from pictures and illustrations what others more fortunate learn by looking at the objects themselves. The numerous sketches and diagrams that appear in the *Illustrated London News* are very accurate and interesting, and would enable lay readers and students to give precision to the store of knowledge they lay in.

There are some other minor points in which it is advisable that we should exert a little to improve ourselves. In reading English books we come across many names and words and phrases from Greek, Latin, French and German. Some of us do not know that these languages are pronounced differently from English; some who know that they differ among one another and from English in pronunciation, yet pronounce them according to a scheme of how they imagine the languages are pronounced; some impose on them an arbitrary pronunciation of their own, not caring how they ought to be pronounced; and some others,—and these, we think, are quite as numerous as those in the other classes,—who feel the pricks of the linguistic conscience, avoid pronouncing them according to any plan, if they can manage to do so. None of these methods is satisfactory. It may be said that we need not care for the pronunciation of languages other than English; but those of us who care to, or have to, lead the intellectual life will find that there is some inner satisfaction in being able to pronounce

them correctly. A large number of students, are taking up English in the B.A. (Hons.) Course of the local University, and the history of the English Language is an integral part of their studies. Most of these students do not know how to pronounce the non-English words that occur in countless numbers in their books on the English language, and are, therefore, unable to see the bearing on, or the applicability to, the examples, of the philological principles laid down, and have to rely solely on the retentiveness of their memory; but a knowledge of the pronunciation of these languages will enable them to study their subject intelligently and with interest. Any primer of Greek and Latin will tell us how to pronounce the languages, and Siepmann's *German and French Primary Courses*, (Macmillan), and Adams's *French* (in the 'Self-Educator' Series, 1s.) will be useful for German and French pronunciation. Detailed knowledge of the pronunciation of these languages can be acquired by going through Sweet's *Primer of Phonetics* (3s.), Scholle and Smith's *Elementary Phonetics* (English, French, German), Postgate's *How to Pronounce Latin*, Dumville's *French Pronunciation* (2s. 6d.) and Vietor's *German Pronunciation* (2s.). It would be unnecessary for us to buy these books, but we must see to it that every public library and every school and college has a copy of each of them.

A plea for a knowledge of the pronunciation of these languages implies, of course, a plea for the correct pronunciation of English. Even the most practised of Indians can help neither making slips very often in the intonation and the accentuation of English nor using prepositions inappropriately. Nothing but careful study of how prepositions are used

English will save us from constantly falling into errors, for a Treatise on Prepositions will be little read, and even if read, will be of little practical use in guiding us, in speaking and writing, through the intricacies of their usage. For pronunciation, however, we can consult, and use with profit, a number of books published in recent years. There being generally no accentuation in the languages of India, the Indian finds as much difficulty in learning to accent words,—and place the accent correctly,—as a European finds in avoiding accentuation in speaking our languages. To accent English words correctly is the most difficult part of English pronunciation. Some who have realised the need for accurate pronunciation note carefully how individual words are pronounced, but they fail to give satisfaction when they read long extracts, for the study of the pronunciation of words in their static condition does not help us much in pronouncing long sentences, the words of which in the course of reading come into the dynamic state. A student may take up any work of a good author, and by referring to a dictionary can ascertain and mark in the book the accentuation of every word the book contains. If a student has practised reading aloud with care accentuated 'matter' of about a hundred pages, his accentuation would be tolerably accurate, easy and graceful. A student who works with dictionary and marks the accentuation of words in a reading book has this advantage over another who buys a book containing passages in phonetic transcription,—that having found with trouble the accentuation of individual words he is likely to remember more clearly than the other the accentuation of the words, his attention being specifically drawn to the pronunciation of words in

both their static and dynamic conditions. Some of us, however, may not find time for what cannot but be admitted to be laborious work, and may resort to books like Soames and Vietor's *Phonetic Method for learning to read*: Parts 1 and 2, R. J. Lloyd's *Northern English*, H. Sweet's *Primer of Spoken English* (3s. 6d.) and D. Jones's *Pronunciation of English Prose* (2s.). . . . though they may be open to the objection that they represent the pronunciation of only certain regions and not an ideal standard English pronunciation.

A word must be said in support of the complaints often made that our students, though they read an endless number of books in English, are substantially ignorant regarding the details of life in England. We are of course unable to get a personal knowledge of, for instance, the flora of England. But how often have we not read in English novels of dinner and supper, and yet how many of us know what the hour of dinner is in England, or which their principal meal is, or what, again the nature of their dishes? How often do we see morning and evening, summer and winter, referred to, and yet how many know when the day dawns or draws to a close, or when those seasons commence and end, in England? A knowledge of these little details may not add much to the sum of positive knowledge, but will give reality to the knowledge we acquire. Some information of a similar kind will be found in J. N. Fraser's *England* (C. L. S. 8 as.), and S. G. Dunn's *In England* (Macmillan, 12 as.).

Some hints have been given above with a view to pointing out some of the disadvantages by which our students are handicapped, and how they may in part be remedied. To those who either carefully noted and analysed,

when they themselves were students, the defects of the student community of which they then were members, or have had some teaching experience, similar defects and remedies will easily suggest themselves. Education in India will receive a new turn, and prove more fruitful, when teacher, student, and parent realise that the purpose of education is not merely that of enabling boys to get through examinations.

T. G. ARAYAMUTHAN.

Pachaiyappa's College.

"CAN SCHOOL-MASTERS TAKE PART IN PUBLIC ACTIVITIES?"

WE shall first know what these public activities are. 'Public activity' is too broad a term and covers too large a ground, it is all-embracing: It is of the genus of activities, the different species are:—Social activities ranging from post-puberty marriage to inter-dining and sea-voyage; Industrial activities covering all questions of Capital and Labour, questions of co-operation—the formation guilds, trade unions and trusts; Theistic or theosophical activities and minor species of less importance; the last, but not the least, is political activities, better known under the comprehensive term "Politics."

Political activity is shown by people who take an intelligent, active part or interest in understanding helping or criticising the doings of the Government in all its forms, administrative, executive, judicial and legislative.

The question is not, "Can Government servants take part in the last kind of activity?" No, they cannot, they have been by special ordinance prevented—not from all kinds of activities, but from political ones. Barring people in State-service or semi-State service,

the rest by implication can, provided they prudently avoid coming too near the Powder-Magazine known as "Sedition Laws" and the "Press Act" which gives a caution to those that intend to tread on cinders "thus far shalt thou go and no further."

The question now narrows itself but to one issue "whether school-masters can take part in the politics of the country."

Pray, who is this School-Master? Is he a special species of God's creatures? Is he an amphibious animal—half free and half fettered? Is he like the Cheiroptera neither a mammal nor an avis? Has he eyes, ears and tastes as other men? Does not his ambition soar beyond the four walls of his class-room?

This question has been answered in a way by the Hon. V. S. Srinivasasastriar; he sounded a note of warning only a few months ago in the Teachers' College before a large assembly of teachers when he lectured on "Teacher or Pedagogue." He said that a teacher is a pedagogue plus something more; if he does what he is paid for he is a pedagogue; but a teacher is a citizen also and as such must take part in all activities.

But the Calcutta embroglio warns us; the fight between the Bengal Government and the Calcutta Senate about the Lectureship for Post-graduate Study—this nasty episode, which has seen the light of day, comes as an object-lesson to us teachers; we have watched the fight with bated breath; some University Lecturers—they are eminent Lawyers—have mixed themselves with political parties or at least are believed to hold political views which run counter to those of the Gods. The table has been turned against these intellectual giants.

But it is pertinently asked, "Are we not under the ægis of the British rule?" The

Britisher, above all, values in other men, what he values in himself—pluck and bottom. He has no respect for one who is too timid to act out his thoughts, who has not the courage of his conviction, who does one thing seeming to be another he hates cant and hypocrisy. "Come out with your honest truth" that is his motto, "we are of a nation that emancipated the slaves; utter my name and your shackles fall." The boast of John Bull is that a man, whatever his nationality, breathes a freer and more exhilarating air under his banner.

If so why should teachers be excluded from taking part in politics! an answer in a way is suggested. They are feared because they, more than others, are the eye-openers of the blind puppies, come nearer young men whose mind is immature, who imbibe untested any opinion that is offered, and who can easily be influenced by glamour and tall-talk; therefore shut the teachers up from politics.

But this is no answer—if you are forcibly excluded from the exercise of certain kinds of activities, you are by that very act forcibly drawn towards it. What we find in a child gets intensified in a man; suppose we show a child only one side of a picture, we can not call it naughty, if its curiosity impels it to throw at least a side-glance on the reverse; the more we attempt to hide it, the more it wants to touch the forbidden fruit; that is the essence of child nature; man, grown up man, is a child plus a bundle of experience.

We will cite only one instance to show how the authorities were blind to this instinct of human nature. Till very lately we had that precious little book known as "Citizen of India" as a subject on civic study; if we remember right, it was ushered in with a lot of trumpet-sound, and a fiat has gone forth

from the Imperial throne of Lord Curzon that "Lee-Warner's Citizen of India shall be a compulsory subject of study in all Forms of High Schools in India from the Fourth upwards." The book was intended to teach loyalty to boys, but many believed that it showed only one side of the picture; the University, believing and rightly believing that loyalty, any more than morality, could not be taught by means of text-books, was fighting shy of it, and could not bring itself to recognise it—till it was pushed in through the back-door by its god-fathers. Lee-Warner of course built up a fabulous fortune at poor India's expense. When the book was put in the hands of the students, when they attempted to look into the other side of the picture and when repressed and they grew restive, the authorities saw the blunder and quietly dropped the book; no ukase was needed to expel it; like John's Gourd it had a mushroom-existence and it made its ignominious exit unwept, unhonored and unsung; but its very short life had left the Government a very rich legacy in the shape of unrest even among boys.

The complaint is that the best men of the country are not drafted into the Teaching profession, why? we do not think it is so much the prospect of poor pay, but it is the kind of double life that they are forced to adopt. The soul-killing, low salaried and knee-bending stands in their way; the Government will do well to make a rule to get a confession of faith from every would-be teacher before he enters the sacred precincts of the Temple of Learning.

The Government servants and the School-masters have a novel device of satisfying their appetite for politics, because they find that they are by force excluded from taking

parts in political associations, they bring down social conferences, theosophical conferences under the very pandal and during the very days when the political conferences are held.

But the question of all questions is—can you shackle the mind as you can the body? Why, when the Almighty from His Throne, found Satan and his minions rebellious, He hurled them down to Hell pursued by Thunder and Lightning, confined them there with Sin and Death as gate-keepers; was the Omnipotent, we ask, potent enough to punish and imprison their thoughts, when they, the denizens of Pandemonium, hurled from below defiance against High-Heaven? Who can fetter thoughts?

School-masters have eyes and ears—they see and hear; they have thoughts and ideas, they learn and understand; only they can not by word of mouth open out what they find in their mind; this is rebelling against the very nature of Humanity; this will not do; this can not stand; we already hear the distinct echo from far-off China; till yesterday it was a huge rotten carcass, to-day it is re-vivified and rejuvenated; on this side Persia has been stirred up into a blaze, the sickman of the East is in his adolescence; thus the impossibles have become possibles, there is already the din of Democracy all round us. May we not hope in the near future for brighter sunshine for our sons of India?

N. P. KRISHNASAMI IYER.

ENGLISH LITERATURE IN THE MODERN UNIVERSITY.

Sir Sidney Lee has inaugurated his work as Professor of English Literature at East London College, with an admirable address* on English Literature in the Modern University which deserves the closest attention of every teacher of the subject. The Professor's reputation for scholarship and research of the highest kind, and his eminence in the world of literature render his lecture a contribution of great authority and inspiration. As one who has done not a little to introduce improved methods of intellectual investigation into English studies, his remarks on the subject come with profound practical experience. The aims and methods of literary study in modern Universities, have not yet met with any clear and adequate treatment and one can only welcome with eagerness, the guidance afforded by such a distinguished authority as Sir Sidney Lee.

The address begins with a delightful preamble on the dignity of the Professor's calling and on the duties of the ideal Professor. "It is none the less a working professor's duty to advance the bounds of knowledge as a *learner* no less than a *teacher*. No professor will ever be omniscient. I grow more conscious every day of the width of the tracts of knowledge, in my own field, which I have either not traversed at all, or traversed imperfectly." If a Professor of the standing and achievements of Sir Sidney Lee feels it incumbent upon him to be as much a *learner* as a *teacher*, how greater is the need with the average Professor of English, who has probably no

* *The Place of English Literature in the Modern University*, by Sir Sidney Lee (Smith, Elder & Co. 1s. net)

literary work to his credit and whose very efficiency as a Professor depends on the farther acquirement of knowledge. Educationists, again, are apt to lose sight of the true aim of teaching, in their anxiety to impart information to the student, and Sir Sidney Lee has done well in re-stating it in the words: "A Professor's usefulness to his pupils ultimately depends on his power of stimulating them to acquire knowledge for themselves. I conceive of a Professor, however erudite, as in essence a quickening spirit. He ought to be liberal in information, but even more liberal in direction and suggestion. His final aim should be to excite in his students that mental resourcefulness which begets self-reliant and independent effort."

Sir Sidney Lee's survey of the history of English studies serves to remind us once more, of the lamentable neglect of the subject in England till a very recent time. It was the privilege of the late Professor Churton Collins, to call pointed attention in his *Study of English Literature*, to this defect in English University education, but it is some consolation to see that very laudable efforts have been made within the last decade, to rectify it in an effective manner. It is significant of the growing recognition of the value of English studies, that several new Professorships have been recently endowed at the Universities in Britain, and with scholars like Sir Sidney Lee occupying the chairs, one need not despair for the future of the subject. The position of affairs in India, especially at the University of Madras, has happily been much better, and English Language and Literature have always formed the most important subject in the University Curriculum. Nearly half the time of the student is devoted to the subject in all the ordinary University

classes, and its compulsory study has led to a widespread appreciation of its great value, both as an intellectual exercise and as a humanising influence. It will interest Professors in England to know, there is in addition, provision here for deep specialisation in the subject, in the new Honours Courses. If the University of Madras has thus paid more attention to the subject in the Curriculum than Universities in England, the need for a proper understanding of its aims and methods is all the greater, and hence the special value of Sir Sidney Lee's pamphlet to teachers of English here.

It has often been wrongly supposed that the study of English has not a scientific value in training the mind, but there cannot be a greater mistake than that, as has often been probably realised by those who have passed through a somewhat elaborate course in the subject. There can be no doubt that it rouses in the student "an active and lasting enthusiasm for things of the mind," and fosters "disciplined habits of thought." Even those who are intent on the purely intellectual aspects of education will thus find it worth while to offer their best encouragement to the subject.

There has unfortunately been a distinct tendency, in the regulation of English studies at the Madras University in recent years, to attach exaggerated importance to Philology. The student aspiring for Honours in English has to submit himself to a compulsory and elaborate study, not only of the subtleties of Anglo-Saxon Grammar, but of the mysteries of the Gothic tongue. The need for acquiring proficiency in these branches, which are more or less in the position of new languages for the average student of English, has prevented the adequate realisation of the value of literary studies. It seems desirable

to concentrate some attention on the fact that the study of English must primarily be the study of its great literature, so rich in variety, so inspiring in spirit, and so elevating in its influence. We cannot do better than quote Sir Sidney Lee's opinion on the question: "The main theme of English study is English Literature. English language must always remain a subsidiary branch of the study. Literature is the mistress of the household, language the chief handmaiden. Philology has immense claims to the students' attention; it can exert an immense fascination, but by the nature of things *it is subject in English study to the superior control of literature. Verbal structure is secondary to mental substance.*"

Attention to Sir Sidney Lee's definition of literature as "the store-house of the best thought and feeling, set forth in the most lucid, harmonious and pleasure-giving forms, of which words are capable"—attention to these essentials of all great literature would seem to be quite necessary before making any real progress in English studies. There is always the temptation of yielding to the ephemeral charms of sensational novelists and the University at least must steer clear of paying any heed to their preposterous claims to be included in the world of literature. Thackeray's *Lazy Idle Boy*, who does nothing but take in too great a glut of cheap and worthless fiction, is unfortunately found in every University class, and he must meet with very severe correction, before any useful work could be done by the Professor of English.

Sir Sidney Lee has some illuminating remarks to make on each of the four great departments of English Study: Criticism, History, Philology and Composition. One

cannot but give one's hearty approval of Sir Sidney Lee's plea for the study of textual and other mechanical aspects of literature, but it seems quite necessary also to warn Universities from paying too much attention to them. There is in the methods and spirit of *class-teaching* and *scholarship*, something which tends to pay less and less attention to the higher aspects of literature, and it is well for the Professor of English, to be always on his guard against it. Lifeless bookishness is the danger of all specialised education, but it must be particularly unfortunate if it should affect even a subject like English.

Comparative criticism, which necessarily implies the comparative study of literatures is another aspect of English studies, which must receive consideration at least in the Honours Courses, and one can only regret its absence from even the best Universities of to-day. In spite of Matthew Arnold's advocacy of its great value, both by example as well as by precept, the Universities do not seem to have awakened to an appreciation of the subject. The Philistinism of Macaulay which made him declare with an amusing confidence: "The literature now extant in the English Language is of far greater value than all the literature which three hundred years ago was extant in all the languages of the world together"—this insularity of feeling is undoubtedly due to absence of the comparative study of literatures. And with its inclusion in all higher University Curricula of languages, there should disappear the feeling which has prompted the poet * to say:

We who are Milton's kindred, Shakespeare's heirs,
The prize of lyric victory who shall gain
If ours be not the laurel, ours the palm?
More than the froth and flotsam of the Seine,

* William Watson.

More than your Hugo-flare against the night,
And more than Weimar's proud elaborate calm,
One flash of Byron's lightning, Wordsworth's light.

The application to literature of what has been called the "Laboratory Method of Taine," has been so wide-spread that it is eminently desirable we should have this warning from Sir Sidney Lee: "Literary history ought to be no skeleton, no charnel house of dry bones. It should be a thing of flesh and blood, a living guide to the aspiration and practical endeavour of the author and a moving picture of his environment." We should only like to emphasize the great value of the study of literary biography in the elementary stages of University education. Let us remember it was such a veteran in the world of literature as Dr. Johnson that declared it was the biographical aspect of literature that he loved most.

Even those who feel that Philology has received undue attention in some quarters will grant what has been claimed for its study by Sir Sidney Lee. But the study of Rhetoric is important too, especially as it leads directly to a finer appreciation of literature. It is difficult to exaggerate the value, for the student of English, of a knowledge of literary forms, the principles of prosody and the elements and qualities of style. We are quite alive to the occasional abuse of the subject which has deserved Butler's castigation:

For all a Rhetorician's rules
Teach nothing but to name his tools.

But we cannot conceive of any good scheme of English studies without adequate provision for this subject.

If Sir Sidney Lee's address had done nothing but draw attention to the great value of acquiring capacity in composition, it should have done enough. Nothing is more

pitiable than the sight of a young man, who has undergone an elaborate course of training at college, and is yet unable to express himself at any length in simple, idiomatic English. We wish it was more widely recognised that "a study of literature which does not endow the student with the desire and ability to write well, misses great part of its true aim." While recognising the great advantage of extensive reading for facility in composition, we are not disposed to give our unqualified approval of the Professor's plea for the conscious imitation of good models of style. It is beset with great dangers and generally results in the student's acquiring a stilted and artificial medium of expression, which is very far from good and idiomatic English. Stevenson's confession of having played the sedulous ape to several masters of style must be taken more as a delightful personal reminiscence, than as an injunction to literary aspirants. If the conscious *imitation* of masters could always result in the *inimitable* and spontaneous style of Stevenson, we should raise the least objection to it, but it is generally productive of only evils. The student must indeed allow himself to be influenced unconsciously by the masters, but he must not go about striving to imitate them.

It must be trite enough to talk about the advantages of a library to a student of literature at the present day, but Sir Sidney Lee has an inspiring message on the joy of *possessing* books. The enjoyment of literature can never be complete without the delight of owning books, and it is only those whose book-bills constantly threaten to outrun the capacity of their purses, that have realised the rapturous feeling. With the phenomenal cheapness of books and facilities for choice selection, there is hardly any excuse for the

student of literature who does not possess a small library of his own. "The borrowing of books has little spiritual advantage compared with the buying of books for oneself. The sense of ownership in books is an ennobling pleasure." Mr. Edmund Gosse tells us in his delightful autobiography, *Father and Son*, that as a boy he often saved money by walking his way back from school without taking the train, so as to have the privilege of buying literary classics! No such sacrifices are demanded of the student of to-day as excellent reprints of standard literature can be had at ridiculously cheap prices. We should like to draw the attention of our readers in this connection to the chapters on the formation of *An English Library* in Mr. Arnold Bennet's recent book on *Literary Taste*.

We have only to express in conclusion our sense of thankfulness for this very useful guidance afforded by Sir Sidney Lee to all teachers of English. There can be no doubt that an application of these principles to University work will lead to the most proper understanding of literature and we hope the members of the teaching profession in India, who are as keenly interested in English Literature as those in England will receive real benefit from Sir Sidney Lee's "glad tidings of literature's saving grace."

P. SESHADRI.

Pachaiyappa's, }
Madras.

PUNJAB UNIVERSITY—CONVO- CATION ADDRESS.*

At no previous period of human history has the student of world-conditions been confronted by such a complexity of problems as now. We do not forget the mighty movements, the innumerable crises in the lives of great peoples and governments that crowd the records of the past; but it may fairly be claimed that few, if any, of them ever equalled in point of influence upon all the peoples of the world in one particular period, that great movement of unrest that is manifesting itself, in some form or other, in every country of the globe to-day. It may be described as a mysterious, pervasive force, which is becoming more and more conscious of itself; and as its interest in the public welfare and even in international facts and correlations grows more keen, it is rapidly becoming an element that must be taken into account in every estimate of the forces that make for righteousness on the one hand, or unrighteousness on the other. Do we seek illustrations of this spirit? We turn to the far West, to Europe and America, where we have but to note conspicuous departures from the past, in hand to hand struggles between Capital and Labour, in the determination that privileges hitherto denied to Woman shall be accorded, in the growing conviction that arbitration should take the place of war, and in the more general acceptance of the doctrine that opportunity is the birth-right of every man. We glance at the Ottoman Empire and the still unrestful States who lately made common cause against her; and in all we discern evidences of that spirit which dissatisfied with the past and the present, aims, with movements, howsoever vague, at the rejuvenization of great

* An address delivered by the Rev. J. C. R. Ewing, M.A., D.D., LL.D., Vice-Chancellor of the University of the Punjab at the Convocation held on the 23rd December, 1913.

peoples. In South Africa, Western America, Canada and Australia problems connected with the migration of peoples from land to land are pressing for solution. Delicate and difficult as these problems are, they will be solved, and that rightly, for do they not bear a close relation to the great modern world-movement that tends with mighty onward impulse towards the realization, howsoever remote, of the vision which came long years ago to England's greatest modern singer, wherein there appeared to him an era—

"When the war-drum throbbed no longer, and the
battle-flags were furled
In the Parliament of man, the Federation of the world."

More striking, perhaps, and significant than any other is the picture of China, whose long dormant millions have been touched by the modern spirit and have suddenly stepped forth to the task of working out their own ideal in their own way. In India there are signs on every hand of the growth of intelligent interest in the progress of things, a spirit of helpfulness and self-help, a keenness of appreciation of the rights of the individual and a recognition of the unique character of the opportunity for the exercise of the purest patriotism afforded by the presence here of a paramount authority that guarantees to the country the protection and guidance that are essential to her highest interests. In no sphere of this country's life has there been more rapid development and advance in recent years, than in that of the education of the young. Schools and Colleges have been multiplied; wide extension has been given to Primary Education, and a much larger development in this direction is desired and anticipated. New Universities are being established and new efficiency is being given to those of greater age. The youth of the land have not been slow to avail themselves of the privilege of a liberal education. Witness the enormous increase in the number of pupils in the schools and of graduate and under-graduate students in the Colleges.

The legitimate work of a University is, I take it, roughly reducible to three heads. There is first the function of research; second the training of the higher order of minds that there may be provided such men as possess full equipment for the great thinking and wise leadership of the generations of men, and last, but by no means less in importance than the others, is the training of the great mass of students,—the Pass-men, those who strive for a degree as a stamp of education, or as a means of earning their bread. In the line of research we may assume that the amount of such work a College or University will do, will bear a very direct relation to its supply of funds. If money be available, the University may be counted upon to develop post-graduate and research work with a fair degree of promptness, seeing that the demand for it is so general and so rapidly rising. It is obviously the crown and coping-stone of the University curriculum, a stimulus and inspiration for both those who teach and those who learn; and yet, if it is to be of the highest value, free from sham and artificiality, there must not only be an abundance of funds, enthusiastic and competent guides, but also the most careful selection of men for the enjoyment of these privileges. A distinguished scholar of the West has suggested the following as his ideal of what the research student should be: "Only those who show capacity and desire for high intellectual effort should be encouraged to enter. It is no place for either shallow dabbling, narrow intensity or dull mediocrity.....The research student should be rich in intellectual and moral worth, responsive to scholarly impulses, eager to seek and find, able to perceive and use the more valuable as distinguished from the less valuable material of knowledge,.....open-eyed to ideas in their relevancy, worth and beauty, pulsing with energy and inventiveness,—those best fitted to live, not for themselves alone nor by themselves alone, but first in the household of knowledge, and then in the larger society of the world."

It is unquestionably an important part of the duty of a University to aim at the discovery and recognition of the higher intelligences, men who are capable by virtue of native endowment of such accomplishment as must remain for ever impossible to the average student. Such recognition can in no other way be afforded so practically and effectively as by the opening up to them of avenues and furnishing with appliances and competent guidance for post-graduate and research work. This inspiration is a fundamental factor in all true education. It gives us our passion for acquiring knowledge, our stimulus to clear and forceful thinking, and the power of fruition and accomplishment in the world's great work. A University should grow stronger and richer year by year in the number and potency of her sources of intellectual and moral influence. Men furnished with such training are a great need of the day. The importance of making vastly more adequate provision for them than has yet been found possible in this, or any other Indian University, can scarcely be over-estimated.

And yet there could be no greater error than that of imagining this to be the paramount function of a University. Important and indispensable though it is, I venture to believe that it deserves only a secondary place, as related to the matter of providing what is best in the way of education for the great mass of students, who have little or nothing in common with those who find it easy and delightful to follow the great masters into the higher realms of intellectual attainment.

It is the average student, the rank and file of the lecture-hall, who, after all, forms the most important part of the constituency of every organized centre of learning. It is he who by virtue of his numbers and his needs makes the largest demand upon the care and thought of his teachers. Their task is that of infusing character, energy, patriotism and a spirit of unselfish de-

votion to the welfare of others; and the accomplishment of this depends upon the tone and atmosphere which they are able to create and foster in the institutions where the men for whom they labour assemble for purposes of study.

We have observed that we live in a time when, as never before, wide movements of thought are affecting the minds of the masses of men in every quarter of the globe. In India, as elsewhere, the number of those who claim the privilege and right of sharing in the constructive thinking of the time has greatly increased. This is a circumstance which the University should not only not ignore, but should take into serious and definite account in all her activities. It is to the University that the country must largely look for a supply of men to carry on its work. If this be true, no theme could be more pertinent to an occasion like the present one, than that suggested by some such inquiry as this: amidst the crush and competition, the adjustments between the new and the old, the clash of widely divergent ideals, and face to face with the transcendently splendid possibilities that all would fain see realized in a land and amidst a people like this. What type of man is that which is most needed? What must be the character of the product of our Universities, if they are to discharge the function which, under Providence, they were meant to discharge?

Obvious and even superfluous as the remark may appear, I venture to suggest as one great demand of the times that the product of our Universities should be men of education. It is usually assumed and rightly so, that in general, the successful candidate for a degree deserves to be thus styled; but is it not unquestionable that, at every stage of the student's course of study, much that is of little or no truly educative value is given the place which should be occupied by a more rational and beneficent intellectual discipline? Under the prevailing system of examin-

ations, some features of which one finds it impossible to contemplate with satisfaction, or to discuss with much patience, it is not surprising that the student approaches the testing time obsessed with the idea that unless his memory be filled with a prodigious store of isolated facts, there is but faint hope of satisfying an examiner. As a consequence his mental processes tend to become mechanical, and no more salutary counsel could be given to many a successful candidate for a degree than that he proceed to forget as quickly as may be possible, a very considerable portion of what he has accumulated through the incessant and brain-stupefying toil of many months. Laborious days and nights, too, the man who wins may never hope to escape; but if this labour is to earn a recompense of solid and permanent value, it must needs be performed upon lines more in accord with the fundamental laws of mental growth and development than these. If the student thus fall short of what he might have become and might have achieved, if he come forth a machine rather than a man, it were idle and unjust to apportion to him the chief blame. The School, the College and the University must bear the larger share. He is largely what we have made him. He has not been given the opportunity of knowing that a mere body of information as to the facts of certain given subjects, does not alone constitute an education; but that along with this, and never subordinate to it, a grasp of the underlying principles of the subject as well as of the methods by which knowledge of it can be advanced, is indispensable.

It should be, and I believe it is, the aim of the University to send forth men whose wits have been sharpened by contact with those of their fellows, as well as by the reading of their texts. If they are to successfully grapple with the problems of life and to deal wisely and effectively with men, it is imperative that technical knowledge be combined with breadth of mind and humanization of character. There is need, for

example, of men who are great mathematicians; but we want them to remember that the practical work of the world can only be well done by those who keep in close touch with human nature. Similarly the great facts and principles of Law and Science and Philosophy afford spheres of training for the mind, each having its own characteristic value; this value in every case depending largely upon the degree in which it stimulates the imagination, extends the field of thought, and aids us in forming well-reasoned plans of life to be lived amidst our fellow-men.

The mind that has been disciplined to measure facts, to compare, contrast and assign to each its place, the one that is not merely instructed, but educated, is the type of mind that gives promise of things that are worth while. Breadth of view, intellectual integrity, an invincible determination to ascertain what is true and to use it as a working basis for all of life's activities, we are surely not mistaken in believing that qualities such as these should be discernible in men who have had the advantage of a course of study in a University. Toward the accomplishment of such a result many means and methods have been suggested and are employed with varying degrees of success. Not even the briefest possible mention, much less a description of all these will be attempted here; but without thought of disparagement of any other, I shall venture to speak briefly, and by way of illustration, of what may be styled the use and method of the Library. Good Libraries, open to our students, are few. An inventory of the equipment of the Colleges in this particular, would undoubtedly lay bare the source of much ineffectiveness. And yet very considerable advance has recently been recorded by committees of inspection, and assurance has been given of still greater things to follow the faithful remainders given. The University itself has made a most substantial beginning in the way of books, buildings and general appliances, and

extensive plans for large development are in progress. Time was when certain order-graduates were known to confess, unabashed, that they had never read anything but that which was prescribed for purposes of examination. If any such remain to this day, we may assume that their number is small, and that they are wholly without excuse.

While felicitating ourselves upon the improvement of our libraries, we would not lose sight of the fact that the provision of even the most abundant supply of wisely-selected books is, by no means, all that is required. Skill in using a library is not an instinctive acquirement. The youth requires to be stimulated and inspired to make use of it, through being initiated by his teacher into the profit and the charm which belong to the intelligent and systematic search for the treasures that lie hidden there. It is the business of the teacher to guide the student, in the confidence that he will soon begin to walk alone and reap a rich harvest from amongst the volumes treating of his special subject of study, or those furnishing him with the materials for general reading. This work of guidance is not easy: the teacher must put the very best of himself and of his labour into it, if he would see those results in the line of accurate scholarship and general culture upon which we insist as essential features of the genuinely educated man or woman. More of wisely directed general reading, general discussion, study of the lives of men and nations as they are found recorded in good, scholarly, workman-like histories and biographies, these are means largely available and of incalculable value, and, in our effort to impart the soundest and most practical training to our under-graduates, they are the very last which we can wisely or safely neglect.

Of those who have received the diploma of this University to-day, we may assume that some are destined by and by to become leaders of thought and action in your Province or, indeed,

possibly in the wider field of your country. Emphasis has been laid upon the need that exists everywhere, in these days, for leaders of men, fitted for their mighty responsibilities by a type of education which includes not only the accumulation of a store of knowledge, but also the broad discipline of the mind in relation to such knowledge, and its possible application to the problems of life.

But in the process of our inquiry as to the sort of men our times demand, and which it obviously should be the aim of an educational system to furnish, we are met by a consideration of still greater importance than that which has just occupied our attention. The great call of the day, with its changing conditions, its intense life and its unsolved problems is for men of *principle*. Great brain power is a splendid endowment for any man; but when in its operation it moves, dissociated from moral principle, it may prove a deadly danger to its possessor and to all who come under the sway of its influence. The more brilliant his intellectual capacity and achievement the greater the menace to a community of a man who is indifferent to the essential distinction between good and evil. There is a growing spirit of materialism discernible in modern life everywhere. I do not speak of that materialism which is recognized as a scientific system or a philosophy of life, but of that practical materialism in daily life which looks for immediate results and financial gain, which knows "the price of everything and the value of nothing," unless it can be put in terms of money. The dominance of this spirit in the individual or the community, brings in, as its inevitable consequence, more or less of justification of the cynic's claim, that every man has his price. It is the province of the School, the College and the University to wage war against this and similar tendencies; indeed to bar the way against their growth, by a resolute and constant effort to make manifest the greater

beauty and power and privilege of a life lived under the abiding sense of moral obligation. If such effort meet with a fair degree of success, we may justly claim for the machinery of education the credit of fulfilling a legitimate function, while at the same time there is furnished, to the inestimable advantage of the people at large, a supply of men to whom we may with confidence look for that wise and righteous leadership of the masses, which is essential to the genuine progress and highest welfare of every country. Personal character, clean, strong, definite and true, is a quality the absence of which in an individual to whom is assigned a position of leadership, or who arrogates to himself such position, no community can afford to excuse.

A public sentiment that stands unequivocally for the things that are just and true and noble and that sternly repudiates as unworthy all departure from these, is an asset of inestimable value to a community. As an agency for the creation and dissemination of such a sentiment where may we so reasonably, and withal with so much of hopefulness, look, as to the graduates of the University? We unhesitatingly claim the right to demand of them that their united influence be such as will result in the establishment and maintenance of some definite standard of integrity. It is for them to refuse to follow blindly in the wake of such leaders as have not earned the right to act as guides, by proving themselves to be the possessors of a keen sense of honour, a contempt for the false and mean and unmanly and an unselfish readiness to serve. Let them set the example of measuring men, not by their social position or their wealth, or even by their desire for prominence, but rather by the application of some such tests as these: Are they known as clean in life? Are they honest in their business transactions? Do they always speak that which is true, even when temptations to falsehood are strongest?

I shall not pause here to elaborate those

fundamental reasons for laying emphasis upon personal character, the weight of which is in greater or less degree recognized by us all; but pass to mention certain other considerations which though of minor importance, are not unworthy of our serious thought.

The rapid growth of commercial activity is a prominent feature of our times. The schools and colleges of the country are responsible for the task of training men, and women too, for the avocations of trade as well as for what are termed the learned professions, or for service in the departments of Government. We may not, and I take it, most of us do not set a high value upon honesty only because it is the best policy; yet we are not thereby precluded from recognizing the expediency, utility and necessity of high moral principle throughout the entire domain of trade and commerce. Mutual confidence, reliance upon the word of our neighbour and the assurance that our word to him is as good as our bond, are indispensable to the highest commercial prosperity. We are told, and I accept the statement as true, that there has been noticeable improvement in the general character and efficiency of the public service in this Province, due to the introduction of a larger proportion of men of superior educational attainments. That occasional exceptions are, at times, to be discerned is not at all surprising; but that when they occur, the public experiences a sense of shock and raises its voice in protest, is a welcome sign, revealing as it obviously does, not only that the product of the schools are themselves recognizing their peculiar obligations, but also that the people have set up for them a standard of integrity and have a mind to insist that it be observed.

The days through which we are passing furnish an unsurpassed opportunity for the practical and beneficent exercise of the altruistic spirit. In this, as elsewhere, the presumption is in favour of the greatest breadth of interest and efficiency being found among those who have been prepar-

ed for it by a liberal education. The country is demanding of the University man to-day that he shew himself not merely efficient in doing the duty that comes to him, but that he shew himself resourceful. He must be inventive in discovering duty as well as in performing it. He must be able to go forth into the very heart of life and shew others what must and what ought to be done. There is a tremendous demand everywhere for men who have attained to that moral excellence, which consists in looking, as a habit and principle of life, not exclusively upon their own things, but in liberal measure upon the things of others. The spirit of service, grief at sight of suffering, and the impulse to afford relief rarely lack an ample field for exercise.

Your country and your people, whom you love, stand ready to test the genuineness of your professions and the practical value of your training. Illiteracy, intemperance, customs which still cripple the lives of multitudes, though you yourselves may long since have abandoned them, provide you with a sphere for your best effort which is practically unlimited. It is possible that your ambition is centered upon things that seem to you vastly higher and more worthy of your energies than these humble services. Wealth and social position possibly figure very largely in your anticipations. Were you to assert that it is not so, you would lay yourselves open to the charge of insincerity and priggishness, or lay claim to the distinction of being individuals of a wholly abnormal type; for, after all, you are young men with the fresh blood of vigorous youth in your veins, and the world lies very beautiful and broad before you.

But pending your arrival at the heights to which you now aspire, and indeed all along the pathway of life, whether it leads eventually to what men call greatness, or keep you confined to the humblest places, there lies before you a sphere of the enprement interest and the richest promise. Unselfish, patriotic service performed for the wel-

fare of those whose opportunities and privileges have been fewer than yours; work persistently done, free from the blight of self-advertisement, and rendered effective by the tact and skill of which your training has made you masters, it is upon this that your equipment and your environment as well, summon you to enter.

Gentlemen, we have seen that the call of the day is for those who are trained to think clearly and broadly; men of principle who scorn that which is mean and false, and stand firmly for what is honorable and true, whatever be the cost; and the aggregate of whose influence operates as a mighty force to elevate the entire moral level of community or province or country. In so far as you can justly claim a place among these, the course of study you have now completed have already been crowned with success, and the lives that lie before you are exceedingly rich in their possibilities for others and for yourselves.

EDUCATION IN CALCUTTA.

RESPONSIBILITIES OF THE CORPORATION IN EDUCATION.

Mr. F. H. Stewart, President of the Calcutta Social Study Society, and Mrs. Stewart were "At Home" to the members of the Society in the rooms of the Asiatic Society, at No. 1, Park Street. A meeting of the Society was afterwards held at which His Excellency Lord Carmichael presided. Mr. W. W. Hornell, Director of Public Instruction, Bengal, read a paper on "Educational Organisation as a Civic Problem."

The Hon. Mr. Hornell, after rapidly sketching the system of education in Bengal, proceeded to deal more particularly with the condition in Calcutta. He said:—

Under Section 14 (2) (vii) of the Calcutta Municipal Act, the Corporation may provide for the promotion of primary and technical education. The promotion of education in these grades is, in

fact, one of the secondary duties which the Corporation is empowered to undertake. Previous to the above Act there was no provision for expenditure from Municipal funds in Calcutta on education, primary or otherwise. It was only when the Amalgamation Bill, which afterwards became Act II. B. C. of 1888, was under discussion in the Council that the provision for the promotion of primary and technical education was added to Section 36 of that Act at the instance of Sir (or as he then was Dr.) Gurudas Banerjea. One of the grounds urged in favour of this provision was that as the portion of suburbs, which were then going to be amalgamated with Calcutta, enjoyed educational grants under the Bengal Municipal Act, it would be unjust to deprive them of the same. There was some very strong opposition to the proposal. In the course of the debate the late Dr. Mahendra Lal Sircar said that with all his love of education he had not been able to persuade himself that the provision of education formed any part of Municipal duty.

In 1908 the Corporation appointed a special committee to determine the policy to be followed in regard to the promotion of primary and industrial education in Calcutta and to devise means for carrying out the same. I must explain at this point that for the purposes of Grant-in-Aid the Corporation has practically interpreted the term "technical" as referring to industrial and has confined its attention to industrial schools. The committee was reconstituted in 1909, and submitted an "ad interim" report in August 1910. In this report the committee pointed out that the Government and the Corporation were acting independently with regard to contributions made towards the promotion of primary and industrial education in Calcutta; that the Corporation had been in the habit of distributing its grants without or largely without reference to the Inspecting officers of the Education Department with the result that sometimes bogus schools received assistance while sound schools went without it. It

was recommended that the distribution of Corporation grants should in future be made in consultation with the officers of the Education Department.

THE CORPORATION AND PRIMARY EDUCATION.

Sir Charles Allen was in favour of the Corporation taking over the primary education of Calcutta and in their 'ad interim' report which was submitted in 1910 the committee considered the question whether the Corporation should offer to take over from the Government the entire control of primary and industrial education in Calcutta, receiving in return a grant in the nature of revenue equivalent to the present and expected cost of this service to Government. The principle upon which this proposal was put forward was that the primary and industrial education of the youth of the city was a civic duty which should properly be discharged by the Corporation, as a part of the Municipal administration, and it was urged that it was anomalous that the citizens of Calcutta should exercise less control over education than the District Boards in rural areas and the mofussil Municipalities throughout the Province. On these grounds as also for reasons connected with the difficulty of making a proper distribution of grants, it was suggested at an early stage of the committee's proceedings that the Corporation should assume the responsibility of controlling and aiding primary and industrial education in Calcutta, employing a regular Inspecting staff and appointing a standing committee whose business it would be to deal with all educational matters. Having arrived at the conclusion that, if financial conditions permitted, it was desirable on general grounds that the Corporation, if necessary, with expert assistants, should take over the control of primary and industrial education in Calcutta the committee proceeded to examine in detail what the cost, both present and ultimate, would be, if the proposal were carried into effect. At about this stage Mr. (now Sir Archdale) Earle, who had been Director of Public Instruction, joined the Corpora-

tion as its Chairman. Mr. Earle's view was that if the Corporation made themselves responsible for primary and industrial education they would find themselves swamped in expenditure. He therefore disapproved of the proposal that the Corporation should assume this responsibility, although he personally was in favour of placing primary and industrial education under Municipal control, if such an arrangement could be shown to be practicable. Very little resulted from the deliberations of this committee except the adoption of certain recommendations with regard to payments of grants to schools. Unfortunately the proceedings of the last meetings of the committee are not available; they are apparently not recorded for the reporter, fell ill and had to leave the service of the Corporation.

THE POSITION IN BOMBAY.

The responsibility of the Corporation of Bombay in the matter of education in that city briefly amounts to this. In 1907-08 the contribution of Government towards education in Bombay city was Rs. 72,768 and the Corporation contribution for that year was Rs. 125,036, this latter contribution being in accordance with a Section of the Bombay Municipal Act which provides that the Municipal contribution should not be less than a sum of such amount as added to the fee levied in the same year would be equal to double the Government grant for that year. This Section has since been replaced by the City of Bombay Police Charges Act which provides that the Municipal Corporation of Bombay is to be relieved of all expenses on account of the City Police and that in place thereof it should undertake certain educational and other expenses. Under the Act just referred to a body which was previously known as the Joint Schools Committee became the Schools Committee of the Corporation, and the Corporation now contributes the full amount for the maintenance of the primary schools. Thus the responsibility for primary education in Bombay rests with the Corporation.

STATISTICS.

On March 31st last there were in Calcutta according to the returns 569 schools of public instruction and 49 institutions not working according to any recognised departmental standards. This makes a total of 608 institutions with 58,761 pupils, of whom 47,045 were boys and 11,625 were girls. The total expenditure during the financial year 1912-13 on schools of public instruction—the finances of private institutions are not returned—amounted to Rs. 12,93,110 towards which provincial revenues contributed Rs. 3,03,461 and Municipal funds Rs. 29,357—the balance of the expenditure being met as follows:—

	Rs.
From fees	... 7,27,198
From other private sources including subscriptions	... 2,33,094

Further analysis of the above figure yields the following result. There were 89 secondary schools for boys and girls including High English, Middle English, and Middle Vernacular with a total of 28,419 pupils of whom 3,318 only were girls and the total expenditure on these schools during 1912-13 was Rs. 8,40,433 towards which the contribution from provincial revenues was Rs. 1,00,662, contributions from Municipal funds Rs. 6,233, contributions from fees Rs. 6,00,150, and the contribution from other private sources Rs. 1,32,508. It must here be explained that though the Corporation is only authorised to make grants towards primary education it can, and does, make grants to secondary schools in consideration of the work done in the lower classes, which is similar to that attempted in primary schools.

The number of primary schools in Calcutta on March 31st, 1913, was 227 with an enrolment of 15,777 pupils of whom 5,481 were girls, and these schools cost during the financial year Rs. 1,20,691

—this cost being distributed as follows:—

	Rs.
Provincial revenues	... 28,469
Municipal funds	... 11,410
Fees	... 48,293
Other sources	... 32,519

The number of schools for special inspection in Calcutta on March 31st, 1913, including training schools for teachers, the schools of art, medical schools, industrial schools, commercial schools, Madrassah and miscellaneous schools, such as Maktabas, or Mohamedan primary schools, Sanskrit Tols, etc., was 213 with an enrolment of 10,345 pupils of whom 1,589 were girls. The total expenditure on these institutions is returned as Rs. 3,31,986 towards which amount provincial revenues contributed Rs. 1,74,330, Municipal funds Rs. 11,714, fees Rs. 77,955, other private sources Rs. 67,937.

MUNICIPAL CONTRIBUTIONS.

The total amount contributed from Municipal funds during the financial year 1912-13 to the institutions above referred to was Rs. 29,357. To this must be added a sum of Rs. 3,527 contributed towards hostel charges and by way of payments to certain private schools. This brings the total contribution up to Rs. 32,884. The Corporation also surrenders annually a certain amount of income by exempting from rates various educational institutions of all grades. The value of this surrender, when added to grants to free libraries and a special grant to the Deaf and Dumb School, brings the total contribution from the Municipality for the year 1912-13 up to something like Rs. 70,000. So far as I have been able to make out the total annual expenditure of the Corporation is now about 8½ lakhs.

According to the figures which I have quoted above there were, on March 31st last, 47,046 boys and 11,625 girls on the rolls of the institutions included in the above returns. Taking the Census figure and estimating 15 per cent. of the male and female population represent roughly

the number of boys and girls of school-going age—it would appear that 51½ per cent. of the boys of school-going age in Calcutta are actually at school and about 26·8 per cent. of the girls.

The Education Department of Bengal employs exclusively in Calcutta one Deputy and one Additional Deputy Inspector of Schools, two Sub-Inspectors, one Inspecting Maulvi, three Inspecting Pandits, and one Inspecting Munshi. The whole of the abovementioned staff works under the Inspector of Schools who is responsible for the whole of the Presidency Division. He also himself inspects schools in Calcutta as also does the Additional Inspector of Schools of Calcutta and Diamond Harbour, the Assistant Inspector of Schools for Calcutta and the 24 Pergannas. The Inspectress of Schools who is responsible for the whole of the Presidency and Burdwan Divisions is in general charge of girls' schools throughout that area and there is working under her an Assistant Inspectress of Schools for the Presidency Division. A proposal to appoint a separate Assistant Inspectress for Calcutta only is now before the Government of Bengal. The Deputy and the Additional Deputy Inspector of Schools are concerned primarily with the inspection of middle schools for boys and upper primary schools, the Sub-Inspectors are concerned with the inspection of primary schools, the Inspecting Pandits, Munshis, and the Maulvies inspect lower primary schools or Maktabas, viz., Muhammadan primary schools. I must also mention that the Inspector of European Schools is responsible to Government for all recognised European schools in the Presidency including, of course Calcutta, and that in respect of schools for European girls he is assisted by the Inspectress part of whose duty it is to visit European girls' schools also. Applications for grants from Municipal funds have to be countersigned by the Deputy Inspector of Schools in the case of Indian boys' schools, by the Inspectress of Schools, in the case of girls' schools, by the Inspector of European schools in the case of European schools.

THE REMEDY.

This then in the briefest outline is the educational system of Calcutta and the administrative machinery by which it is being carried on. The first point which must, I think, occur to any one when the system is first explained to them is that it is not and never has been any one's business to consider such basic question, as what schools are needed and where. What in fact happens is something like this. I am thinking for the moment of schools for Indian children and not of schools for Europeans or Anglo-Indians. Schools are started very largely as private ventures in response to demands, real or supposed. Those who start them, house them wherever or however they can and in the case of a high English school, if a certain number of pupils can be got together and the standard of accommodation and general efficiency is not made too exacting the running cost may be met and even a profit made.

In the case of primary schools the state of affairs is even more chaotic. A Pandit or a Maulvi appears, and he sets himself to establish a primary school. He looks about for a habitat and having found some building which is sufficiently cheap, he gets together a few pupils and if he can retain these pupils for a certain time he goes to the Deputy Inspector, and possibly to the Municipality, and obtains a grant. In 1905 the Government of Bengal pointed out to the Municipality that the primary schools of the town were a disgrace, being dark, ill-ventilated, damp and unhealthy, and in most cases too small to accommodate the number of children attending them. A scheme was at the time proposed by which the Municipality with the help of Government should construct some 45 model primary schools; but apparently this scheme was not carried into effect and the condition of the primary schools in Calcutta continues to be absolutely deplorable.

SECONDARY SCHOOLS.

The condition of secondary schools is very little better. Very few schools are situated in houses

of their own, and practically none of them are accommodated in buildings constructed for schools. The Imperial Government recently made available a capital grant of a sum of Rs.75 lakhs for educational purposes in Bengal including the proposed University for Dacca. A certain amount of this grant has gone to the University of Calcutta, and some of the special capital grant for European education which was included in the 75 lakhs, will be spent in Calcutta. But practically nothing will be spent out of this allotment on schools for Indian boys and girls in Calcutta, for the whole problem of school accommodation has always been regarded as too big to touch. In Dacca, on the other hand, just because there has been some attempt to tackle the problem of school provision as a whole, the Government of Bengal is now proposing to spend 10 lakhs of rupees in a scheme for providing some of the schools in the centre of the town with decent sites and buildings.

What I would ask the Social Study Society to consider is whether this state of affairs can be regarded as satisfactory or even tolerable. It seems to me almost unthinkable that the citizens of Calcutta should acquiesce permanently in it. I know there are enormous difficulties, and I do not wish to preach the application to Calcutta of the practice of the leading cities of England in the matter of school provision during the last 10 years or so. But there must be schools in Calcutta and the demand for them is not likely to decrease. Are you going permanently to leave the question of school provision to chance or to the tender mercies of the central Government who have the whole Presidency to look to and who can make a shilling go about as far in the mofussil as they can make £190 in Calcutta? Supposing an Act is ever passed making primary education in Calcutta free and compulsory, you cannot compel children to attend schools unless there are schools for them to attend. Just conceive of the problem which some one will then have to face. We have now a large scheme for the improvement of Calcutta,

Surely at such a juncture the problem of schools in which future generations are to be educated ought not to be altogether overlooked.

A COMMITTEE PROPOSED.

I have no cut-and-dried scheme to suggest. I do not even advocate the assumption by the Municipality of the whole responsibility of any grade of education in Calcutta. The object of this paper is to invite discussion; if I might make a suggestion, it is this: Would it not be possible to appoint a committee, partly of members of the Municipality, partly of representatives of various sections of the population and partly of educational officers, to consider the whole question of school accommodation within the Municipal limits and to devise a practical scheme covering as many years as the circumstances of the case seem to demand for the provision of such new school buildings as the needs of the population appear likely to require. The Municipality now spends annually some 70 thousand rupees in grants, which so far as I can see, effect very little. Supposing the committee which I have above suggested could work out a scheme for providing Calcutta in the course of a certain number of years with a certain number of decent primary school buildings, would not the Municipality with such a scheme before them, be willing to discontinue the payment of grants and in return to use their credit for the purpose of raising a loan for the construction of the school buildings? If this were done Government might well agree to provide the grants necessary for the maintenance not only of the existing primary schools but also of such primary schools as the Municipality might establish under the scheme which I have just outlined.

If such a scheme worked well, the principle might be extended to schools other than primary. That is to say that by degrees the present system of private venture secondary schools might gradually be supplemented by a series of secondary schools which would be constructed by the Municipality and financed partly by Government, and

partly by fees received. The private venture secondary schools of Calcutta may possibly meet the needs for the moment, but as secondary education becomes costly, as indeed it must, as life and conditions become more complex, the private venture schools, housed in any hole-and-corner fashion and distributed according to no organised plan, are bound to become in time a hopeless anachronism. As it is the buildings in which the secondary schools for Indian boys in Calcutta are housed are infinitely inferior to those which are now to be found in the mofussil. The reason for this, of course, is not far to seek. When a new school building is wanted in the mofussil, a site can be procured and a decent building constructed for a sum of money which would not buy a quarter of the site in Calcutta.

DISCUSSION.

A discussion then followed in the course of which many members made suggestions as to improving the school buildings of primary schools in Calcutta.

The Hon. Mr. Bompas said that they might take it as a fact that the Corporation did not make any very substantial contribution towards primary education and schools because it had not sufficient control over their management. The primary schools in the city were a "perfect disgrace," and it behoved them to see that an improvement was effected. As Chairman of the Improvement Trust he could assure them that when the suburbs were cleared he would always make a point of reserving a portion of the opened suburbs for primary schools.

Mr. J. Arthur Jones said that while there might be some reason for hesitating before entrusting the Corporation, with the control of primary education, it would be possible to adopt the English plan of an Education authority in which a Committee of the Corporation would be associated with heads of colleges, representatives of the Bengal Chamber of Commerce, and others appointed by the Bengal Government. As for the objection that the result would be increased cost, he

deprecated the idea that Municipal progress was to be restricted by the statutory limitation of the rates to 21 per cent. In England a rate of 33 per cent. was quite common, and in some favoured places 50 per cent. had been reached. Unless they went beyond the present limit many of the best amenities of Municipal life could not be provided.

Mr. Percy Woolley pointed out that over and above the want of proper buildings, the chief aim of primary teaching should be directed towards the cultivation of powers of observation on the part of the pupils.

Dr. S. K. Mullick assured Mr. Hornell that should this state of affairs be pointedly brought to the notice of the public in Bengal, he was certain that sufficient funds for the erection of proper schools would be forthcoming. There was at the present time an enormous amount of local feeling with regard to this particular question, and he felt confident that sufficient money would be found to start by way of experiment a model school in the city.

Father Van de Mergel and Captain Clifford spoke on behalf of the Anglo-Indian community.

Mr. F. W. Stewart pointed out that the whole question before them was one of cost and what they had to decide was who was to "pay the piper"—the Corporation or the Government? He was of opinion that it was impossible for the Corporation to increase their rates, which in a city like Calcutta were already too high. He would, therefore, endorse the suggestion for the formation of a joint committee.

Mr. Hornell briefly replied.

Lord Carmichael, in closing the discussion, said that when he was coming to Calcutta he was assured that it was a perfect city. He had spent some time since in correcting that impression. One feature of all the important changes that had been advocated was that they all required money. The Society could not give Mr. Hornell the money he wanted but they could give him thanks for his valuable paper.

EDUCATIONAL TOPICS

A PAID VICE-CHANCELLOR FOR BENGAL

The Government of Bengal—if any faith can be placed in the rumours appearing in the Indian and Anglo-Indian Press of the Presidency—is contemplating a most retrograde step with regard to the University of Calcutta. It is nothing short of the appointment of a paid, full-time Vice-Chancellor in place of the present Honorary officer. Nothing has been more injurious to the progress of Indian Universities in the past than the constant interference of the Government, in every small detail of its work and administration. The free development of University ideals, and the whole-hearted Association of the people with their best interests are hardly possible under such conditions. It will be a fatal mistake to make such a new departure in any of the Universities of India. If the work of the Vice-Chancellor was found too heavy—no complaint however seems to have emanated from him—an easy way out of the difficulty would be to give him an additional officer of the standing of the Registrar to serve him as a Personal Assistant. It is particularly unfortunate that the Government should be contemplating a step of the kind, when the office is occupied by such a distinguished person as Sir Ashutosh Mukerjee, under whom the University has entered upon an era of wonderful progress. But for the influence on the Indian community possessed by this distinguished son of Bengal, it is quite possible we should not have had the magnificent donations of Sir Taraknath Palit and Dr. Rash Behari Ghose. Nor could there have been the living interest now felt in University affairs in that province by Indians. We hope wiser councils will prevail and the University will be saved the threatened disaster.

A PROVIDENT FUND FOR TEACHERS.

The lot of the teacher in India has always deserved the sympathy of everyone interested in

the class, as well as in Indian progress generally. The institution of a system of pensions after a period of service, or the award of a gratuity on the eve of retirement has been a long-felt want, and the reform has been urged from time to time at least in Southern India. Sometime back, the Government of Madras went so far as to place one of its officers on special duty to prepare and submit a scheme for the purpose. The Hon. Mr. J. H. Stone prepared an elaborate memorandum, the recommendations of which, could have been given effect to immediately, but the Government dismissed the whole scheme with a scanty paragraph or two, and nothing came of the professed anxiety to improve the lot of the poor teacher in private, primary and secondary schools. We are glad the country will see the fruition of such a scheme for the whole country in the future. The aim of the whole scheme will be served best by making a Provident Fund or a Retiring Fund, a compulsory condition of the recognition of a school by Government. It must assume as serious importance as the questions of sanitation, accommodation and equipment in a school. The Presidency of Madras is represented by Mr. A. C. Prauatharthahari Iyer, an old and trusted officer of the Educational Department and we have no doubt the interests of this part of India will receive adequate representation. Government schemes have always the knack of getting distorted and provokingly delayed in incubation and we hope provision will be made against such a contingency at least in this case.

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THE CLASSICS AND MODERN EDUCATION.

The peculiar position of languages in India, has prevented the compulsory study of a classical tongue, and there cannot be a more lamentable gap in Indian education. The needs of the twentieth century render the compulsory study of English an absolute necessity and the circumstances unfortunately prevents the compulsory

study of a classical language in addition. But the study of Sanskrit will supply a link with the past, and introduce an element of humanity and refinement of the feelings, which seem to the peculiar assets of classical languages. It may be expected to do for India what has been done by Latin and Greek for the countries of modern Europe, as the civilisation of the Indian of to-day is bound up intimately with the ideas of Sanskrit Literature and Philosophy. Speaking at the Annual Meeting of the Classical Association in London Sir Frederic Kenyon recently drew pointed attention to the influence of a classical education on modern culture, and we commend the remarks to the earnest consideration of all those who have any faith in the value of the study of Sanskrit, as they may also be applied to its priceless treasures. Sir Frederic Kenyon was not satisfied with saying that the classics were a training for life. He would go a step further and maintain that they constituted an element of life. "The cause of the classics," he said, "was the cause of all imaginative aspirations, of all intellectual interests. They were, or should be allied with all lovers of literature, with all lovers of history, with all who cherished the spirit of enquiry and freedom of thought. Their object was not to make small boys translate Xenophon and Cæsar, but to give them intellectual interests, which would enable them to appreciate not only Homer and Virgil, but equally Dante and Milton, Goethe and Wordsworth, all the great thoughts of all ages and all lands, and to be awake to the movements of their own day, and to discriminate between the false and the true, the true voices of beauty and the insincere cries of self-advertisement..... Their creed was not merely that a man might read the classics and be blameless, but that a man would be a better man of business, a better lawyer, a better merchant, a better stock-broker, a less hide-bound politician, if he kept alive in his soul the love of literature, the interest in things of the intellect, of which the Greek and Latin classics

were the spring and perennial source of refreshment."

SIMPLIFIED SPELLING.

The cause of Spelling Reform received a fresh impetus at the recent Conference of Educational Associations in London. Some striking speeches were made at the meeting of the Spelling Reform Society, presided over by Sir William Ramsay. Professor Gilbert Murray, who has long been an enthusiastic spelling reformer, sent his indictment of the present system in a letter, as he could not be present on the occasion. Three main reasons were urged in favour of reform—the comparative difficulty of learning the English language; the waste of time and trouble it causes to children at a time when every hour is valuable; and the disadvantage it has on English as compared with Italian, Spanish, or German. The most serious evils of the present system lay according to Prof. Murray in encouraging development of two undesirable intellectual tendencies in the child's mind. Having been taught to attach more importance to spelling than to sound, the child's faculty of perceiving the sounds it was making, was seriously interfered with. The system also spoiled its reasoning powers by fixing the mind "during several impressionable years on a pseudo-system of rules, in learning which memory counts for everything, and anything like reasoning or clear thought would lead straight to disgrace and loss of marks." It may be that those who have long passed the stage of learning the language, fail to appreciate the encouragement it offers to these evils, but their existence is indisputable.

THE MAHANT'S SCHOOLS VALIDATION BILL.

The Hon'ble Mr. T. V. Sestagiri Iyer—whom we must congratulate on his recent elevation to the Bench—was very well-advised in introducing the Mahant's Schools Validation Bill into the local Legislative Council. An unfortunate judgment of the High Court of Madras, in the course of

which it was suggested that it was no duty of the Mahant of Tirupati to maintain schools for the imparting of English education, necessitated the introduction of such a Bill. On grounds of common sense it seems quite clear that the Mahant should be authorised to spend the offerings of the Hindu worshippers on all objects tending to the good of the Hindu community. It is strange that a judicial tribunal of the twentieth century should have made such a pronouncement. Such a narrow interpretation of the duties of the Mahant, the guardian of the enormous revenues of the temple, would result in the exclusion of a number of other beneficent schemes, on which money has been spent from time to time. Does the maintenance of a Hospital fall within his religious duties? Is the Mahant justified in making a grant to the Municipal Water-Works of Tirupati? Is even the encouragement of Sanskrit learning, in the College set apart for the purpose, a necessary part of the Mahant's duties to Hinduism? What is the relation between the grammatical mysteries of Panini, the romantic amours of Kalidasa, the subtleties of Hindu logic and the truths of Hinduism? It seems extremely futile to say that it is no business of the Mahant to maintain the High Schools at Tirupati and Vellore. That is not the spirit in which the Law must be interpreted in this age of advancement and culture, and if the judiciary world commit such a mistake, the Legislature must step in, and prevent any further recurrence of such an error. We hope sanction will be accorded to the passing of the Bill by the Government of India without any delay and the Bill will pass into law, before the beginning of the next academical year.

EDUCATION IN THE IMPERIAL COUNCIL.

At the last session of the Imperial Legislative Council, the Hon. Mr. Surendranath Bannerjee moved a resolution of considerable importance to the cause of educational progress in this country, but the treatment it received at the

hands of the Government is not calculated to inspire any great confidence in its policy and administration. Nothing could be less objectionable than the Honourable member's demand that all the correspondence relating to the affiliation of the Auanda Mohan College up to the B.A. standard should be placed on the table. The Government were prepared to give the assurance that the College was not being treated with any injustice, and that the conditions imposed were exactly like those imposed on Government Colleges, but were not inclined to publish the correspondence! Comment is needless. There can at least be no doubt that this policy of secrecy is not likely to conciliate the sympathy, or answer the misgivings of the Indian community. The second part of the resolution related to the proposed transfer of the powers of affiliating High Schools to the University, from the hands of the Senate to the Department of Education in the Government Secretariat. Nothing can be more illiberal and narrow-minded than this anxiety to officialise every thing connected with education. No case has been made out for taking such a momentous step. It has not been proved that the Senate has abused the power in the past or that it has declared itself unequal to the task. The change will only end in creating some distrust in the Government's policy and possibly also in introducing an unhealthy element of official autocracy into the atmosphere of education. But Government insists upon doing it, and any amount of public criticism will not convince it of its error. It will save itself by not publishing the papers, and that is the crowning point of its statesmanship!

UNIVERSITY OR GOVERNMENT?

The essential justice of the Hon. Mr. Surendranath Bannerjee's plea is borne out by a striking letter that has appeared in the *Statesman*, from the pen of a retired European Headmaster, protesting against this officialisation of every thing connected with education in India. We take the following extracts from

the excellent and spirited article by Mr. R. Gordon Milburn:—

SIR,—“In such a country as India there should be two heads under which Government should classify all political and semi-political cases with which it has to deal. The first head would be ‘Normal.’ In normal cases the primary aim of Government tends to determine the policy to be adopted. Now what is the aim of all Government? Surely it is that a worthy, happy, and honoured life may be shared by as many as possible in the land. If we commence with the principle that the primary aim of Government is to control the people we commence with doing the latter a wrong. If we commence with the principle that it is sufficient if the people are given the material benefits of civilization, we do them a wrong. A wrong is done so long as it is the aim of Government to do less than to promote a worthy and honoured life throughout the community. What makes life worthy, what makes it deserving of honour, it is for Government itself to consider.

In pursuing this end the rule must be: Respect the self-respect of others, and especially those in subordinate positions. This is above all necessary when a whole race is for a time politically subordinate to another, for some kind of freedom is necessary to self-respect and to all manliness of character. If a nation is educated to be servile and abject, it will never either be honoured or worthy of honour. There are people who have developed a taste for controlling every thing by order of Government. With them it is always a little more control by Government here and a little more control by Government there. Whenever anything is not quite as it should be they straightway wish to apply their one stock remedy—more control by Government. But this propensity cannot legitimately be indulged in in normal cases. The harm it does in demoralizing a race more than counterbalances the possible advantage of more business-like methods. This holds good to a certain extent even in non-political matters—even, that is to say, when it is a mere question of method and efficiency. But when circumstances are such that people feel that it is not a mere question of

efficiency but an attempt on the part of Government to debase their manhood in order the more easily to rule over them, it is far worse. In 'Normal' cases the rule must be to avoid any methods which would be likely to lead to such a result, even though they might in other respects be convenient.

* * *
Fear of inspectors and magistrates on the part of headmasters, lest their pupils should not be allowed to appear at the examination, attempts to propitiate these dangerous magnates by flattery and self-abasement, in sincere exhortations to loyalty and an excessive display of English flags, royal pictures and the like, indiscriminate and disproportionate punishment whenever there may be cause to fear that some Government officer may have been offended by some petty schoolboy misdeed—to bring up boys or girls in such an atmosphere as this is to poison the springs of national life.

I have been a headmaster myself. I tried to teach my boys to love their country, but to love it consistently with the wider love to all mankind, and to bear no malice nor hatred in their hearts towards men of other races, but rather to make allowance for their faults. I tried to show them that sedition was bad; that it only led to restriction of freedom; that it occasioned an enormous outlay of money at the expense of the people in unproductive ways which might otherwise have been spent on national benefits, and that it leads to further secondary evils of various kinds. But I did not make any use of Union Jacks for I was ashamed to flourish the symbol of Imperial fellow-citizenship before people who participate so little in it themselves. In their eyes it might appear rather as the symbol of the subjugation of their nation by a foreign race, and to flaunt the symbols of subjugation before the subjugated and make them shout 'hurrah' thereto (some of them might look at it in this way) is at least detestably bad taste. Indians will be spontaneously loyal enough when fellow-citizenship with ourselves is felt by them to be a reality.

These are some of the principles involved in the question of the control of schools by Government by means of a School Final Examination. I will not now spend time in showing that from a purely educational point of view there is nothing to be gained by any such step. The proposal is essentially a political proposal—a case of narrow-hearted failure to respect the necessary conditions of self-respect in others."

A PROFESSOR,

EDUCATION IN THE MAGAZINES.

(INDIAN)

Education in Mysore,

by Mr. H. V. Nanjundayya.

The following are extracts from the speech of Rajamantra Pravina H. V. Nanjundayya, Esq., M.A., M.L., C.I.E., at the distribution of prizes, Chikmagalur High School, on the 18th instant:—

I need not tell you that it is the wish of His Highness the Maharajah that there should be advance in every direction of material and moral prosperity. The various Conferences and Committees that are being created and stimulated all over the country are meant to rouse popular sympathy and popular co-operation; for in all matters concerning the welfare of the people, the attempts of Government are likely to have but a limited effect unless they are voluntarily and zealously seconded by the people themselves. Of course different people have different opinions about the extent to which efforts will succeed in different directions, and as to the results they will enable us to achieve. But I believe that none of us have any misgivings about the utility and eventual success of the attempts of Government to foster and advance the cause of education in the State in all its branches.

We have, as you are aware, now a Regulation by means of which Government can to a great extent compel boys in selected areas to attend schools. Proposals are being matured in the Education Department for extending this beneficent though experimental measure to a considerable number of places in the State.

Though the majority of our boys can never be expected to reach beyond the elementary stages of a school, we shall have little reason to congratulate ourselves even with universal education, if only a low uniform level were aimed at. We have Anglo-Vernacular and Vernacular Schools of the Middle Standard in almost all Taluks and in many large villages; and we have High Schools, both Government and Aided, in all Districts Head-quarters and in Chikballapur and Chennapatna. You will see from the reports of the Inspector-General that in all these institutions, the attendance is growing larger and larger, the School-Leaving Certificate system recently introduced having stimulated the interest and activity of both teachers and pupils. For want of proper books and teachers, the standard of education that one can reach without English is limited; and both the Education Department and

the public appreciate this fact and the number of A.-V. Schools is fast increasing. They serve as feeders to the High Schools, and as a means of discovering and selecting the most promising boys in whose case further expense and further trouble would be repaid a hundredfold if they are sent to the High Schools.

Education in Jodhpur, by H. E. the Viceroy.

The following is H. E. the Viceroy's speech at the opening of the new buildings of the Rajput Schools at Jodhpur:—

Your Highness, Ladies and Gentlemen.—The inauguration of these buildings marks a forward step in the educational policy of Jodhpur and indicates a development with which it gives me the greatest possible pleasure to find myself associated. The account of the school that has just been given us shows that its past career has been somewhat chequered, but now that the Elgin School and Powett School have once more been united and have found a worthy abiding place in these buildings, there is every reason to hope that its future is assured. In some respects the arrangements here reminded me of those formerly in force at one of our oldest English public schools, and I can wish no happier future for this institution than that it may form a similar tradition of its own, so that the boys may leave it not only animated by the highest ideals, but with their intellect and character thoroughly developed and well-equipped to hold their own in the battle of life as their ancestors were in the stormy days when learning was of little account and a good sword arm, a brave heart and a good horse were the only requisites for success. Being a public school man myself I am perhaps somewhat blessed in favour of that form of education. It is, however, impossible not to recognise that its advantages are to some extent discounted when differences of caste and creed and social custom operate to prevent boys from living together as one family. That happily is a difficulty you have not to face here, where the school is for the Rajput boys and all can get on a common footing and I cannot but think that the manly virtues of high courage and unswerving loyalty inherent in the sons of Rajputana will form as fitting a tree as can anywhere be found whereon to ingraft our English system. This institution owes its existence largely to the wisdom and genius of H. H. the Regent Sir Pratab Singh, and I regard it as of happy augury that H. H. the Maharajah of Jodhpur should himself in his early days have shown his substantial interest in its success. There is no question but that it begins its career

with fortunate omens, and the large number of applications for admission is in itself a demonstration that it supplies a real demand. You do not in any way contemplate entering into competition with the Mayo College, and indeed the stimulus to education derived from this foundation will rather help to increase the number of your Nobles who pass on to that, but you look forward to turning out boys well-equipped for their various walks in life, and from among them no doubt will be found many who are destined in the future to do good work in the service of the Jodhpur State. These, who have been responsible for the actual design and construction of these buildings, are fortunate in having had at hand this beautiful red sandstone, and I congratulate them upon the finished product of their labours. I accept with pleasure the invitation that I have received to give my name to one of the boarding houses, and Lady Hardinge and I are equally pleased to give our names to the models to the institution as prizes for the best all-round boys at work and at sport respectively, and I take as a compliment that my name should be so closely associated with the life of this school, regarding the future of which your high hopes may justly be entertained. I have great pleasure in declaring these buildings open.

How to use a University, by Mr. H. A. L. Fisher.

Under the auspices of the Presidency College Union, Madras, Mr. H. A. L. Fisher, a member of the Public Services Commission, delivered a lecture at the College Hall on "How to use a University." Mr. Mark Hunter, Principal of the College, was in the chair. The meeting was very largely attended.

In the first place a University existed to extend the boundaries of human knowledge, and that was perhaps the highest, the noblest and the most difficult end which a University proposed to itself. But it was because that end was high and difficult it was only a few students who were qualified to contribute to that purpose. Even in the best English and German Universities the number of students who were really able to profitably indulge in advanced research work was very small, and the percentage of course was at present much smaller in India. Nevertheless, even though a very few of them might be enabled to indulge in original intellectual work, it was important that all of them should know what that work was, something of what it meant in the way of effort and endeavour, and that

however little they might be able themselves to lead a learned life, they should at any rate, while at a University, learn to respect knowledge and science, learn to respect lives devoted to knowledge and science, also to estimate the extent of their own ignorance when measured against the achievements of men who were leaders in scientific research. They should remember that in a University they ought to acquire tastes of an intellectual character which would last them through their life-time. They should not think of a University as a mere piece of machinery for obtaining degrees, nor as a piece of machinery which enabled them to pass examinations and to write letters after their names. No doubt it was a very nice thing to pass examinations and to obtain degrees, but a person might pass all the examinations in the world and obtain all the degrees in the world and yet go through life an entirely unprofitable person without a single genuine intellectual taste, without a single added zest in life, without a single additional gift which would enable him to profit his fellowmen. He had heard that in India it was even more common than it was in England for young men who had taken University degrees to shut their books at the end of their University career and never afterwards to open them again or to take any interest in the studies of the University. If that happened to any individual, that individual had not used his University properly. A University was designed to give people a clue to life. The University was a place which trained habits of intellectual labour and trained appreciation of literary beauty or scientific truth. It was a very important secret of life to preserve their physical health." According to the great historian, Bishop Creighton, it was essential that a man should lead a regular life. By regular life he meant breakfast at 8. Breakfast at 8 in India would be not a counsel of perfection but a counsel of damnation. He (lecturer) would say even on his slight Indian experience that leading a regular life meant going to bed at 10 and getting up at 5. If they would adopt those two rules and at the same time played games instead of looking on at them, and played them as often and as well as they could, there was a chance that during their University career they might build a substratum of health which would last them through life.

In conclusion, the lecturer said there were certain signs by which they could tell to a certainty whether a man had extracted the full advantage which he could extract out of University life. The first sign was to see whether he continued to take a real interest in intellectual

things after leaving college. The second test was whether he did or did not accept for gospel truth what he had seen in a newspaper. If he did, then his University failed to place him in his proper place. The next test was if a man tried to learn a book by heart. If he did so he was a hopeless failure. If he forgot nine-tenths of a book that he had read on the ground that they were irrelevant and remembered only the one-tenth relevant part of the book, then he was a success. Another test was whether he improved his physique. If he sat up late at night over-working himself and got nervous and digestive complaints, then his University life was a failure. The next test was whether a man was or was not extreme in his opinions and in his condemnations. If he was, then he had not gained that habit of balanced judgment which was a product of true scientific training and of true search for truth, which was so rare among men. The last test was whether he was bored with life and whether he thought that life was uninteresting. If a man left a University thinking that it was hardly worth living and that inertia was better than action, then that man had not got true value out of his University.

Advice to Students, by H.E. Lord Carmichael.

The following are extracts from the speech of His Excellency Lord Carmichael at the Dacca College Prize-distribution:—I dare say you all realise the two-fold nature of education. There is that side of education which gives a man knowledge and skill in applying knowledge which secure to him habits of accuracy and diligence and all those things without which a man has little chance of success in the practice of any profession. But there is also another side to education which goes far to build up a man's character, which forms his tastes, which determines what he likes or dislikes, probably all through life, which calls out his emotions and above all, which teaches him how to control his emotions. It is of this second side of education that I am now thinking. This is the most important side of education, probably for a man's own happiness, and certainly for the happiness of those with whom he is brought in contact. You get this side of education very much from your games and your amusements perhaps quite as much as you get it from your studies. I want to remind you that you will be wise to take the opportunities which you have now to train your minds both in your regular college work and in what you do of your own initiative, not only in such a way as shall lead to professional success

but in such a way as may lead to enjoyment in life. With this end in view, I think you cannot on the whole, whatever it be that you study for professional purposes, do better than cultivate taste for good literature. I know how much good one can obtain from attention to physical science. To my mind, nothing gives a man more pleasure. I have met men who tell me that their keenest joys come from the skill they have acquired in Mathematics and I have no doubt this is true of other studies which are embraced in your regular curriculum. But it is not always easy for a man to find the opportunity for using his knowledge of Natural Science or of Mathematics outside his professional work to add to his own pleasure or to that of others. Only too often and necessarily the only way in which one can secure joy is by combating sorrow. As years go on, you will find, all of you, every man who is a man at all has found it that the best chance of living a happy life lies in being able to help others or in inducing oneself to look from a cheerful or at least a comforting point of view at facts which at first tend to give one a feeling of despair.

(FOREIGN).

Lord Haldane and Physical Education.

The Lord Chancellor made a noteworthy speech at a dinner held at the Savoy Hotel, London, in aid of the National League for Physical Education and Improvement, with which is amalgamated the Mansion House Council on Health and Housing.

He was often reproached with being an optimist, but one thing he had never been optimistic about was the cause of national education in the widest sense of the term, because he was oppressed with the enormous amount there was to be done. Physical culture must go hand in hand with mental culture, and precede it, otherwise there was no foundation on which mental culture could rest, and it was between the years of one and five that the determining difference was made. Afterwards, right through the school-life they must pay attention to physical training. It was a great pleasure when he thought how backward his own country was, to read a book by one of the most eminent authorities in Germany, who said: "Ob, if the German secondary schools were only like the English Eton and Harrow, how well off we should be!" In the educational world they were not so much conscious of each other's infirmities as of each other's firmities. The main consolation which they

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had felt was the appreciation of their educational system which they found in unexpected quarters on the Continent. But of one thing every one was agreed, and that was that the physical side had got to be looked to. It was a general superstition abroad that it had been looked to in Britain. They had assembled that night, however, an organisation, the very reason for the existence of which was to stir public attention to the necessity of guarding and training physical conditions under which the human organisation grew up. It was very difficult for a body like that to do much of a direct character, because this problem was acute throughout the country, and the only people who could solve the problem were not an organisation, not even the local authority, not even the State, but the public itself. All that they could do, though it was a great deal if they could do it, was to educate the people as to what they should do.

Lord Morley on Books.

Lord Morley of Blackburn, Chancellor of Manchester University, was presented on Friday, January 30, in the Whitworth Hall of the University with his portrait, which has been subscribed for by the members of Convocation. The portrait, which represents him in his robes, is the work of Sir Hubert von Herkomer. After the ceremony Lord Morley declared the addition to the Christie Library open, and delivered an address. He discoursed on libraries and on the varieties of readers, and recalled the pungent saying that the great difficulty of life is not to learn but to unlearn.

Of all provincial cities Manchester is the most amply provided with libraries. You have the Chatham Library, delightfully housed in its old buildings, and one of the first libraries in the kingdom to be thrown open to the public. You have the Rylands Library, which is, I think, beyond dispute the finest library in England, after the British Museum in London, the Bodleian at Oxford, and the University Library at Cambridge. Your city may well be proud of a collection so rich in rare literary treasures, so beautifully housed, so amply endowed, and so actively managed. Then you have in this University, the Christie Library, which we are to-day extending. It may well be a matter of one of the best sorts of local pride that you in Manchester possess facility of access to literary treasure almost equal to such facility in the metropolis on the Thames. You have not the spires and grey towers and enchanted gardens of Oxford and Cambridge. Nobody is more alive

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December 2 and December 3, after 24 hours of practice with the 100-word paragraph and 10.3 hours practice with changing material, he copied the 100-word paragraph at a rate of 18.1 words per minute with 1.5 errors per hundred words, and copied the new pages at a rate of 13.9 words per minute with 3.6 errors per hundred words. On January 4, 6 and 7, after 4.7 hours of practice with the 100-word paragraph and 19.6 hours of practice with changing material, he copied the 100-word paragraph at 25 words per minute with 2.5 errors per hundred words and the new pages at 17.9 words per minute with 3.1 errors per hundred words. On February 24, 25 and 23, after 7.1 and 29.7 hours of practice of the two kinds, his respective scores were 31.4 words per minute with 2.5 errors and 20.9 words per minute with 2.8 errors. On March 27, 28 and 30, the last three days of the experiment, after 8.6 hours and 36 hours of practice, his scores were 35.2 words per minute with 6 errors per hundred words, and 23.4 words with 3.2 errors.

The corresponding facts for Rejall are as follows: On the first day, the 100-word paragraph at 6.3 words per minute with 8 errors, the 300-word page at 6.8 words per minute with 11.3 errors per hundred words. On November 30, December 2 and December 3, after practice of 2.4 hours with the same paragraph and 10 hours with changing material, his scores were 23.6 words per minute with 6.5 errors per hundred and 16.5 words per minute with 7.6 errors per hundred words. On February 1, 3 and 4, after 5.2 hours and 20.9 hours of practice, his scores were 32.6 words per minute with 4.5 errors per hundred words and 19.9 words per minute with 3.8 errors per hundred words. On March 23, 24 and 25, after 7.2 and 30.5 hours of practice respectively, his scores were 42.9 words per minute with 8 errors per hundred words and 25.2 words per minute with 3.6 errors per hundred words. A week's added practice (1/4 and 1 1/4 hours) left these scores unimproved.

The improvement per hour of practice was greater in the case of Hill and Rejall than in the case of the subjects studied by Swift and Schuyler and Book, perhaps because the practice was distributed in much shorter period-lengths, perhaps because of individual differences such as made Rejall improve more rapidly than Hill. Using all these investigations together it appears that forty hours of well-distributed practice will enable an intelligent student to copy on the machine approximately as fast as he can by hand.

BOMBAY SCHOOL OF ART.

Lady Willingdon distributed prizes to the students of the Bombay School of Art in the presence of a large gathering presided over by His Excellency the Governor who in the course of a brief address congratulated the Principal and the pupils on the progress made during the year, and gave the latter some sound advice as one who has had some experience of architecture. His Excellency expressed regret that which had given to the people of India such noble examples of architecture as the Taj Mahal had to some extent lapsed and he showed the students the scope there was for the revival in India of art which to some extent had been lost. Mr Cecil Burns, Principal, in his progress report spoke particularly of the success achieved in architecture and pottery sections.

CALICUT SCHOOL OF COMMERCE.

The Government sanction the proposals of the Director of Public Instruction to re-open the special commercial training class in the School of Commerce at Calicut temporarily for a period of ten months with effect from 1st July 1914 and to employ an additional assistant on Rs. 60 per mensem for the purpose. This sanction should not be used in granting promotion to any of the existing teachers in the school, but in securing the services of a graduate with necessary qualifications specially entertained for the purpose. The amount of stipends for graduate and undergraduate students will be fixed tentatively at Rs. 20 and Rs. 15 respectively per mensem instead of at Rs. 25 and Rs. 20 as suggested by the Director.

GLASGOW TECHNICAL COLLEGE.

The Earl of Rosebery as Chancellor of Glasgow University was present at the admission of new associates of the Royal Technical College, Glasgow, which within the past year has been affiliated to the University.

Lord Rosebery, who had an enthusiastic reception from the students, in the course of a long speech said:—

‘As regards the avocations, professions, and handicrafts that you are going to pursue I will only venture to give you this piece of advice: Throw all your energy and pride into your craft. Perfect it and exalt it by your devotion.’ ‘By doing so you will indefinitely extend your own talents, and you will raise your whole conception of a life devoted to the profession which you have chosen. It is only by uniting these high ideals to the practice of life that any success under any circumstances can be attained. Just consider

for a moment. If you regard your own avocation as a daily grind only meant to grind money out for your support it ceases to have any good influence on your life, and as your connection with it grows longer a certain repulsion grows up through your not having exalted it at the commencement of your career. Well, I confine myself to that one piece of advice.

Reviews and Notices.

STORIES FROM MEDIEVAL ROMANCE, BY NETTA SYRETT. (OXFORD UNIVERSITY PRESS. 2s.)

The delightful occupation of pursuing the Romantic, suggested so vividly in the following lines of Milton's *Il Penseroso*, will always exercise its fascination on the young:

Or call him up that left half-told
The story of Cambuscan bold,
Of Camball, and of Algarsife,
And who had Canace to wife,
That owned the virtuous ring and glass,
And of the wondrous horse of brass
On which the Tartar king did ride;
And if aught else great bards beside
In sage and solemn tunes have sung,
Of tourneys and of trophies hung,
Of forests and enchantments drear,
Where more is meant than meets the ear.

The Oxford University Press has done very well in providing children with such a fine collection of tales relating to Medieval Romance, as the one under review. The narration is sufficiently simple and clear to enable students of elementary classes to follow it, without at the same time deteriorating into insipid plainness. A free use of dialogue and a frequent inclusion of poetical extracts have added to the value of the book and we have no hesitation in saying it will be an eminently suitable introduction to the enjoyment and study of Romance. The merit in the choice of tales is evident from the inclusion of *Amy and Amile* well-known to readers of William Morris; *King Robert of Sicily* with its numerous literary associations; the delightful love-tale of Aucassin and Nicolette which has won the admiration of such a fine critic as Walter Pater; and the cycle of Robin Hood tales which furnishes a source of perennial joy to all lovers of adventure. Reading the recent poem of Alfred Noyes on Sherwood it had struck us, it was one of the most successful attempts to re-create the times of the bold outlaw, and we are particularly glad to notice passages from it have been utilised

in the narration of the story. It is difficult to understand the author's total exclusion of the Arthurian cycle. No volume of *Stories from Medieval Romance* can be representative without specimens of the Arthurian Legends. In a recent volume on *Medieval Story* by the distinguished American scholar, Professor Lawrence, the *Arthurian Cycle* plays a prominent part, and that is as it should be. We hope the next edition at least will see a supply of the serious omission.

THE RENAISSANCE IN INDIA, BY THE REV. C. F. ANDREWS, M.A. (THE CHRISTIAN LITERATURE SOCIETY. 1 Re.)

Readers of Indian periodicals must be familiar with the name of the Rev. C. F. Andrews who has acquired quite a reputation for his sympathetic understanding of Indian life and civilisation. *The Renaissance in India* is a brilliant effort at the portrayal of the new awakening that is expressing itself in almost every branch of national life. The great upheaval which must be patent to every observer of the situation has often been unfortunately misrepresented by critics who are not drawn to India in any spirit of love and sympathy. But Mr. Andrews gives the true reading, and his analysis of the new developments of the Indian spirit, is distinguished by a complete grasp of facts and strong commonsense. We hope to see the book in the hands of every student of Indian progress, and of all Anglo-Indians who are anxious to catch a glimpse of the mysterious forces that are shaping the national life to-day.

EXERCISES IN DICTATION AND COMPOSITION, BY N. NOTMAN, M.A. (THE OXFORD UNIVERSITY PRESS. 2s.)

Teachers of elementary classes in English will find it eminently useful to avail themselves of Mr. Notman's *Exercises in Dictation and Composition*. The need for such a collection will be keenly realised by all those who know the practical difficulty of finding just the kind of passages needed for a particular occasion. Every teacher has probably often felt the inconvenience of having to rummage the pages of numerous volumes, to find a solitary passage fit as an exercise in composition. The passages in the volume under review are chosen with considerable discrimination and are arranged in order of difficulty. Valuable suggestions are offered with regard to their utilisation for purposes of the study of

to these glories than I am. But may I say, without offence to more antique places, that you in Lancashire have something to make up. You have an atmosphere of mother-wit—a very keen and active mother-wit—and mother-wit is rather bracing compensation for the magic of venerable association.

So much for your libraries. How many species are there of the genus reader? Perhaps a short half-dozen.

There is the professional reader, who either seeks fresh knowledge and the fruits of fresh research; or else, at the lower end of the scale, seeks in old books to find material for the rather mechanical manufacture of new ones. Then there is the student arming himself for his coming duel with the examiner. There is the listless, idle reader, who takes a book as a pleasant and respectable sedative, like the smoking of tobacco. Then there are those—I hope the most numerous—who read, if you go to the root of them, on the principle, as it has been put, that your own mind is theatre enough for yourself—who read because books stimulate curiosity, feed, multiply, and enlarge the whole range and compass of your interests, and raise a man or a woman to a high level in the general estimation of their age. The necessities of geography, for instance, are more and more pressing. It is one of the most remarkable features of our day. Six months ago who of us ever heard of Kikuyu? Not I for one. Yet who knows that this remote spot of most cacophonous name will not take a place in ecclesiastical history as notable as the Synod of Dort, the Westminster Assembly, or the very Council of Trent itself?

A great library is a warning, a lesson, a rebuke, to the unlucky people whose minds are constitutionally unable ever to hold more than one idea at a time. It is, or ought to be, a check on the frightful impulse to rush to take angry sides at five minutes' notice on every question, no matter how complex or how delicate, that rises in the morning paper. It is a place for learning; but, believe me, it is also a grand place for unlearning; and sages have wisely said that our difficulty in life lies less in learning than in unlearning.

Madame Montessori.

Madame Maria Montessori, of Rome, who originated the remarkable educational methods which bear her name, has been on a visit to the United States.

The "Tribune" calls her the most interesting woman in Europe and thinks that her theories of "auto-education" should appeal to the individualism of the nation. As in the last year or so, something like seventy Montessori schools have been started, the "Tribune's" generalisation is not devoid of foundation.

"As is so often the case with new ideas the message that Dr. Montessori has brought from Italy to America is not one that is in substance unheard of or even revolutionary," says the "Outlook." "In so far as it appeals to one as being true, it is the message that we have always heard. What is distinctive about it is that Dr. Montessori seems to have brought these truths under a scientific test, has correlated them into a system that appeals to one's reason, and has applied them with extraordinary effectiveness."

There is a Montessori Society in London.

"Dr. Montessori was seventeen years in training for her life work," says R. E. Diffendorfer in the "Christian Advocate." It was in 1896, at the Feminist Congress in Berlin, that she first attracted the world's attention. In 1896, as a doctor of medicine, she attended a Pedagogic Convention in Turin. On the third day of the Convention the papers reported the assassination of the Queen of Austria at the hands of a vicious Italian. The Press of Italy derided the system of public education that produced such characters, and the Turin Convention discussed the insinuations freely. Dr. Montessori requested an opportunity to address the delegates. She spoke for ten minutes on the possibilities of educating the dependents, the defectives and delinquents, and in so short a time changed all public opinion regarding them.

Then she went back to Rome to found her famous school for defectives. Later, when she turned her attention to normal children, she felt herself so incompetent that she went again to the University of Rome for three more years of study in the department of pedagogy. After this she opened her school in one of the most submerged districts of the city of Rome, full of the vicious and criminal, and there began the most marvellous teaching the world has ever seen.

THE UNIVERSITIES. CALCUTTA UNIVERSITY.

SENATE MEETING.

A meeting of the Senate of the Calcutta University was held at the Senate House, College Square, on Saturday the 21st instant. The Hon. Sir Asutosh Mookerjee, Vice-Chancellor, presided and there was a large attendance of Fellows.

DR. RASHBEHARI GHOSE ENDOWMENT.

The Senate accepted the following resolution of the Syndicate in regard to Dr. Rashbehari Ghose Endowment:—

That Mr. S. P. Agharkar, M.A., late Lecturer in Botany and Zoology, Elphinstone College, Bombay, be appointed to the Dr. Rashbehari Ghose Professorship in Botany for a term of seven years, on condition that he spends the first two years in such University or Universities outside British India as the Board of Management may hereafter determine.

Mr. Agharkar is a distinguished graduate of the University of Bombay and was for over three years a Lecturer in Botany and Zoology at the Elphinstone College. He is stated to have been a successful Lecturer, and he has done research work both in Botany and Zoology. His zoological papers have been published in the Records of the Indian Museum. He has made several tours of investigation and collection which were authorised and assisted by the Bombay Government, and he has made an interesting collection of local fauna and flora.

That the condition of his appointment and tenure of office, etc., be the same as those sanctioned by the Senate for the Dr. Rashbehari Ghose Professorship of Physics.

UNIVERSITY READER.

It was then resolved that Mr. J. H. Das Gupta, B.A., (Oxon) be appointed University Reader for 1914-15 and that the subject of his lecture be "India in the 17th Century as depicted by European travellers and foreign observers."

INSTITUTE OF SCIENCE.

Dr. P. C. Roy was re-elected as the representative of the Calcutta University on the Court of Visitors of the Indian Institute of Science, Bangalore.

AFFILIATION OF COLLEGES.

In addition to the affiliations already granted to the Behar National College, Bankipore, and the Ravenshaw College, Cuttack, the former was

affiliated to the B.A. and B. Sc. Pass Standard in Physics with effect from the commencement of the next, and the latter to the B. A. and B. Sc. Pass Standards in Physics and Chemistry with effect from the session commencing in June next.

MATRICULATION EXAMINATION.

It was next resolved that the Regulations for the Matriculation examination be so modified as not to require a knowledge of Arabic on the part of candidates who take up Persian as their second language for the aforesaid examination. With a view to give effect to the resolution some changes were made in the Regulations.

After disposing of some formal items of business, the meeting separated.

NON-COLLEGIATE STUDENTS.

Mr. Sen, Principal of the Behar National College, announced that as a result of his interview with the Syndicate of the Calcutta University, the Syndicate would allow the second year students to appear as non-collegiate students on the certificate of the Principal. Mr. Sen's visit to Calcutta was in consequence of the University Syndicate's action in connection with the theft of registers from the College by some students. There are about 300 second year students who will benefit by the Syndicate's leniency.

TECHNICAL EDUCATION.

TYPEWRITER TOPICS.

PRACTICE IN THE CASE OF TYPEWRITING.

In 1907-1908 Mr. Hill and Mr. Rejall learned to typewrite under experimental conditions, and kept careful records of the work done daily, the errors made, and the conditions under which the work was done. These original measures have been analysed and organized by Mr. Thorndike with results as shown in an article which appears in the December number of the *Pedagogical Seminary*. All students of typewriting will do well to carefully study this valuable article on the subject. We give below a short abstract from the article.

THE AMOUNT AND RATE OF IMPROVEMENT.

On the first day Hill copied the 100-word paragraph at a rate of 10 words per minute with 13 errors per hundred words, and copied the 300-word page at a rate of 7.1 words per minute with 19 errors per hundred words. On November 30,

grammar and composition. Some of the passages are from standard writers, but it is a pity the Editor has included numerous extracts from writers of absolutely no importance in the History of English Literature. Are we not justified in asking the Editor whether he could not get better writers than H. T. Cheever, M. F. Mawey, J. J. Tschudi, G. Hartwig—even for elementary passages for children? One can easily think of a number of recognised English writers, who have remembered the needs of the young, and an Editor can certainly spare himself and his readers the painful necessity of approaching the work of such obscure literary worthies.

PRACTICAL SPEECH CULTURE, BY ALFRED COX.
(RALPH HOLLAND & Co. 1s. net.)

It is possible to belittle the aid of practical instruction in the development of powers of speech, but it cannot be in obedience to a very wise policy. The highest flights of success in oratory may not be due to the guidance afforded by such books as the one under review, but there is no denying the fact that the average speaker will find himself considerably improved by taking advantage of such facilities. Mr. Cox is thoroughly practical in aim as well as in execution and the remarks are based on a profound study of the principles of public speaking. Even such small details as the speaker's posture of standing receive the attention of the author and we have nothing to complain of his treatment of the subject in comprehensiveness.

MACAULAY'S BIOGRAPHIES. (A. & C. BLACK. 2s.)

If the biographical articles contributed by Macaulay to the *Encyclopædia Britannica* are not as brilliant and stimulating as his essays, they are of great academical value. The student is enabled in this volume to study within the compass of a few short essays, the biographies of Francis Atterbury, John Bunyan, Oliver Goldsmith, Samuel Johnson and William Pitt. They are somewhat lacking in the swing and rush of his longer essays, but afford reliable and interesting material for biographical study, and must therefore be particularly useful for an exemplification of the very difficult art of the biographer.

MODERN ENGLISH SPEECHES AND ADDRESSES, BY
J. J. JENNINGS. (LONGMANS, GREEN & Co.
1 Re. 4 As.)

We believe it is a keen appreciation of the need for studying the models of living English

that has prompted Messrs. Longmans, Green & Co. to publish this collection of modern English speeches and addresses. It has often been observed that at least a part of the want of success in the teaching of English composition in Indian schools and colleges could be traced to the students' ignorance of English as it is spoken by the best speakers of to-day. Mr. Jennings's volume will thus supply a long-felt want. There cannot be the slightest objection to the persons he has chosen for representation in the volume, for they are Lord Avebury, Balfour, Mrs. Besant, Bryce, Carzon, Haldane, Morley, Roosevelt and Rosebury. There is also probably some excuse in including a few specimens of the speeches of H. M. King George V, for they relate to India, and may be expected to rouse interest in this country. We grant that the late Sir Henry Campbell-Bannerman was not as intellectual as his distinguished opponent on the Conservative side, but he should have been included too, as he was an orator of remarkable power, and in the genuine qualities of speaking was even superior to Mr. Balfour. But his Liberal politics was probably unpalatable to the Editor! Mrs. Annie Besant's lecture on *The Value of Theosophy in the World of Thought* might have given place for any of her discourses on a more general subject, of which we can now recall several.

ENGLISH COMPOSITION, BY A. CRUSE (THE OXFORD
UNIVERSITY PRESS. 2s. 6d.)

Referring to the value of the imitation of classical models for the acquirement of good style, Stevenson wrote: "Whenever I read a book or a passage that particularly pleased me, in which a thing was said or an effect rendered with propriety in which there was either some conspicuous force or some happy distinction in the style, I must sit down at once and set myself to ape that quality." And this book on composition is not only based on that principle, but helps the student to work at it by providing a number of valuable specimens of good style, chosen from a wide range of authors. The later chapters proceed a step further, and serve as a valuable introduction to the study of Rhetoric. The author has done very useful service in drawing attention to the value of verse composition, an exercise which is often unfortunately belittled in this country. No well-regulated system of teaching English composition can afford to deny the use of exercises in verse.

AN ANTHOLOGY OF ENGLISH VERSE, EDITED BY
WYATT AND GOGGIN. (UNIVERSITY TUTORIAL
PRESS. 2s. 6d.)

Messrs. Wyatt and Goggin have given one more proof of their remarkable ability in furnishing useful guidance to students. The anthology is thoroughly representative, and within its 350 pages the student will have the privilege of reading some of the very best poetry in the English language. The Introduction takes a survey of the development of English song, and the valuable glossary at the end will afford substantial aid to the student in understanding the passages. We have not much to complain of with regard to the choice of passages—it is hardly possible to satisfy every taste in such a matter, but we must point out, that Hood is not represented properly by the three pieces, *Death's Ramble*, *The Death Bed*, and *Flowers*. They might all have been discarded in favour of his *Bridge of Sighs* which is probably greater than any of them. We should have expected to see Wordsworth's sonnet on the *Sonnet*; at least one of Keat's sonnets, probably that *On Reading Chapman's Homer*; Præd's poem on *School and School-Fellows*; and Tennyson's *Alcaics to Milton*. There seems to be no point in changing the title of Matthew Arnold's poem, on *Rugby Chapel* into *At His Father's Tomb*, unless it be the Editors were anxious to make it less picturesque and less expressive of valuable associations. We should be failing in our duty if we did not disapprove of ending the anthology with specimens from Gerald Massey, Hon. Roden Noel and O'Shaughnessy. If the evolution of English Poetry has ended in the production of such mediocrities, farewell to the English Muse for ever! The Editors' efforts to secure permission for including specimens from them, might with great advantage have been directed to the work of William Watson, Robert Bridges, Alfred Noyes, Henry Newbolt, Stephen Phillips and last, but not least, Thomas Hardy. The critical and biographical introduction prefixed to the extracts from each writer is at least in some cases too brief for the average student. We are not sure if this sentence in the small passage on Swinburne does justice to the poet: "He is famous as a revolutionary, a pagan, and a poet of passion, and above all for his amazing mastery of complex verse music." Do the Editors mean the 'pagans' have no religious sense?—then they are sadly mistaken. We have however no hesitation in saying it is one of the best anthologies of English verse we have known, and must find a

place in every school and college library for the purposes of general study and ready reference.

LAMB'S ESSAYS OF ELIA AND LAST ESSAYS OF ELIA,
BY B. HAMILTON THOMSON. (CAMBRIDGE UNIVERSITY PRESS. 2s. 6d. each.)

It may be that Lamb is such a loveable favourite of students of literature, that they like to read him without the help of an Editor. But the large number of quotations in his work, patent and implied, and the peculiarities of his quaint diction render an Editor's aid quite necessary and Mr. Hamilton's volumes are admirably fitted for the purpose. The essays have not been edited till now with such completeness and precision, and we hope to see the books in the hands of every student of Lamb. The appendices and indices of the volumes could not have been more useful or valuable.

SHAKESPEARE'S STORIES, BY CONSTANCE AND MARY
MAUD. (EDWARD ARNOLD. 5s. net.)

Nine of the most popular of Shakespeare's plays are dealt with in this delightful volume of stories for the young. The narration is simple and spontaneous and sufficiently vivid to appeal to children. The treatment is somewhat more elaborate than in the usual prose narrations of Shakespeare's plots, and is therefore probably more interesting. It is not possible to take any objection to the story-tellers' choice of the nine plays for they are such popular favourites as *As You Like It*, *Romeo and Juliet*, *Twelfth Night*, *Macbeth*, *Tempest*, *King Lear*, *A Midsummer Night's Dream*, *The Merchant of Venice* and *Hamlet*. It may be that it is not possible to make the selection more representative, without materially increasing the size of the book. But we must put in a plea for *Othello*; *Cymbeline* might have had some consideration and it seems quite a pity that all the historical plays should have been excluded. If the English historical plays were thought comparatively poor and insipid in plot, *Julius Caesar* or *Coriolanus* or *Antony and Cleopatra* could have been selected. We regret we have to complain against the illustrations, they do not attain even a fairly high degree of excellence. The illustrations from *Hamlet* and the *Merchant of Venice* are the only two good ones in the book—the other seven are by no means satisfactory.

LIFE OF KING-EMPEROR GEORGE V, BY M. RAMAKRISHNA RAO. (M. R. KRISHNA RAO & Co., NELLORE.) 6 As. ORDINARY EDITION, AND 8 As. LIBRARY EDITION.

This volume is the first of the series of *Subodhini Grandhamala* published at Nellore. No attempt has hitherto been made to present the life of our King-Emperor in simple, chaste and idiomatic Telugu; and the volume before us will be a welcome addition to Telugu biographical literature. There is enough indication in the book to show that the author has availed himself of all the existing material to present the life of the King-Emperor in an attractive form to school children. The book opens with a simple chapter on the Hanoverian line of kings. We notice that a number of interesting anecdotes are put in to make the book highly interesting. Chapter XI deals with the visit of George as Prince of Wales in 1905-06 and Chapter XV gives an account of the Delhi Darbar of 1911. The aim of the author evidently was to inculcate in children's mind correct ideas of devotion and attachment to our King-Emperor. We are glad to find that the style of the book throughout is simple without being vulgar. The author has successfully proved the possibility of combining simplicity of style with chasteness in Telugu language. We should have been pleased, had the book been well illustrated. That would have made the book more attractive to children. We do not like the expression పంచమవార్షిక. పంచవార్షిక would have been more appropriate and we have no doubt that this mistake would be corrected in the subsequent editions.

THE ATLAS GEOGRAPHIES, BY THOMAS FRANKLING, A.C.P., A.R.S.G.S., AND E. D. GRIFFITHS, B.Sc., F.R.G.S., F.O.G. BOOK I, PHYSICAL GEOGRAPHY, WITH 11 MAPS AND 85 DIAGRAMS, Price One Rupee. BOOK II, JUNIOR GEOGRAPHY OF THE WORLD, CONTAINING 7 BLANK OROGRAPHICAL MAPS, 88 SPECIAL MAPS AND 20 SKETCH MAPS. Price Rs. Two. (W. AND A. K. JOHNSON.)

The volumes before us are a welcome sign of the times and the publishers deserve the warm congratulations of teachers for bringing them out. They are quite a model of Geography books and we believe they are the first of their kind. Geography has unfortunately become one of the most neglected subjects in the Madras Secondary Schools, and books by Dr. Mill, Dr. Herbertson,

Professor Lyde, are not even referred to. With such excellent aids as the volumes before us, there is no reason why the subject should not once again occupy the proud position it did in the pre-School-Final days. The general plan of the book is excellent. The authors' aim has been to present every geographical phenomenon on a "visual" method—the method which has received special commendation from many an Inspector of Schools. Against matter connected with each geographical feature there is a corresponding map placed. Neither the body of the text nor the map is overloaded with a mass of unrequired detail. The geography of each area is based upon the orographical map and comparison is constantly instituted between this and the special maps dealing with climate, vegetation, minerals, manufactures, distribution of population and routes and this comparison enables the student to retain the visual impressions thus given and to realise the interdependence of each part on the whole.

Teachers of History have always demanded that History should be taught in relation to the relief map of a country and one special feature of the volumes before us is the facility it affords for such teaching. There are loose blank orographical maps in the envelope on the covers of the book; there are also route maps printed on transparent paper allowing surface maps to be placed underneath. An intelligent teacher has thus splendid opportunities afforded him to illustrate how the relief of a country influences the determination of the direction of routes, the digging of canals, the movement of population, the marching of armies, selection of places to serve as battle-fields, etc. Another special feature of the book is that the matter is so arranged as to lead the child onward from cause to effect. At the end of each section there are practical exercises and the working out of these necessitate the use of logical reasoning power. It is also satisfactory to note that after the regional treatment of each continent, the political divisions of that continent are also described. The books are thoroughly up-to-date. We wish very much that the publishers will arrange to bring out a good geography on the same lines dealing fully with every feature of India.

THE PEOPLES OF INDIA, BY J. D. ANDERSON: CAMBRIDGE MANUALS OF SCIENCE AND LITERATURE SERIES. (CAMBRIDGE UNIVERSITY PRESS. 1s. net.)

The previous volumes of this series aimed at presenting the reader with summaries of the

most recent investigations and hypotheses on current questions of Science and Literature by men who have been concerned in conducting such investigations and framing such hypotheses. But this book is of the familiar pot-boiler type, being but a summary of sundry chapters in the first volumes of the Imperial Gazetteers of India, themselves summaries of earlier books by Sir H. Risley and Dr. Grierson. The theories presented are therefore old and well-known. And what is worse, the methods pursued by Sir H. Risley are now discredited by most modern anthropologists and, we believe, Sir H. Risley himself has overgrown his faith in the efficacy of his anthronometrical measurements as a guide to the differentiation of race. The American Scientist, Prof. Boaz, has upset all previous theories of so-called race-characteristics and no modern anthropologist has the temerity to maintain that any reliable characteristics of race have been discovered. Yet the author talks of the Aryan type, Dravidian type, etc. Dr. Haddon of Cambridge, amongst other Anthropologists, has remarked that the population of India has, since pre-historic times remained stationary; yet Mr. Anderson unhesitatingly speaks of Dr. Grierson's ancient guess that "the Aryans," (who by-the-by are unknown to modern Anthropology) invaded India twice, the first time with wives and the second time without such impediments. Mr. Anderson adds that when "the Aryans" settled in the Midland the rest of India was "more or less barbarous," the opposite of which has been proved to the hilt by Mr. P. T. Srinivasa Iyengar in his monograph on *Life in Ancient India*. Another very curious statement we find on p. 64: "The words 'Tamil' and 'Drāvida' are both corruptions of an original Drāvida." We know that 'Drāvida' is the sanskritized form of 'Tamil' but 'Drāvida' no one has heard of. On the same page we learn that 'Tamil' has an alphabet of its own, but the Malayalam alphabet is the Grantha character. This confusion of description is due to the fact that the author knows nothing about South India and mixes up statements borrowed from others. On the next page we learn that "Telugu is the only important Andhra language now surviving." We shall be really grateful to the author if he could tell us what languages the Andhras of Ancient India spoke and how many Andhra languages once existed and which of them died. The truth is that the ancient kings perhaps spoke an old form of Mahrathi, for one of them wrote a poem in that dialect; their inscriptions are in Prakrit and for reasons which cannot be gone

into here, the name Andhra was appropriated for Telugu between the 7th and 10th centuries A. D. The book abounds with similar careless, confused or antiquated remarks and we regret it has been included in "a series of handy volumes dealing with a wide range of subjects and bringing the results of modern research and intellectual activity within the reach both of the student and of the ordinary reader."

THE ROMANCE OF TRAVEL: (1) IN THE FOREST OF BRAZIL; (2) A TRIP UP THE NILE; (3) DAYS IN THE GOLDEN EAST; (4) REDMAN AND BUFFALO; (5) THE LAND OF THE LAMAS; (6) A CRUISE IN NORTHERN SEAS. (OXFORD UNIVERSITY PRESS. 6d. net each).

This new series of books which contain genuine accounts of great voyages and discoveries as told by the travellers themselves are sure to find a warm welcome in secondary schools. The books of this new series are extremely valuable from the point of view both of Geography and English Literature. They contain very interesting accounts from the records of such famous travellers as Lord Dufferin, Mr. H. W. Bates, the explorer of the greatest river basin of the world and Mr. Eliot Warburton, the author of *The Crescent and the Cross* which contains the most fascinating description of the Nile and Egypt. Children will be delighted to read stories of surpassing interest describing geysers or boiling fountains, of volcanoes or burning mountains, of Spitzbergen, the land of the midnight sun and of a six months' winter "when snow burns like caustic" geographers are familiar with the names of M. M. Hue and Gabet, the French priests, who when sent by the Pope on a mission to China and Zibru made many perilous journeys over mountains and glaciers and the account of their adventures supplies some of the most interesting pictures of those strange old countries. In the book entitled *Redman and Buffalo*, there is a chapter devoted to 'The Passage of the Great Cañon of Colorado' and herein we have described to us one of the most thrilling and fascinating adventures, children reading *A Trip up the Nile* will doubtless enjoy all the romance and realities of Eastern Travel. The Egyptian Bazaars, the Pyramids and Sphinx, the ancient tomb-temples and cities are all described in language at once striking and picturesque. We commend these books to teachers of Geography and English and they richly deserve to be popular.

THE OXFORD GEOGRAPHIES: (1) **ANIMAL GEOGRAPHY**, BY M. I. NEWBIGIN, 3s. 6d.; (2) **THE CLARENDON GEOGRAPHY**, BY F. D. HERBERTSON, Vols. I and II, 3s. each; (3) **A COMMERCIAL GEOGRAPHY OF THE WORLD**, BY O. J. R. HOWARTH, 2s. 6d. (OXFORD UNIVERSITY PRESS).

The Oxford Geographies are deservedly popular in schools and they are edited by Dr. Herbertson. The dominating aim of Newbigin's book is to estimate the relation subsisting between the animals of the various natural regions and their surroundings. The main facts connected with the distribution of animals are attempted to be explained. The introduction is devoted to delimiting the natural regions of the Globe from the point of the zoologist, to the division of the world into zoo-geographical regions. This division is no easy task. The botanist for Eg. recognizes three great plant formations which roughly divide the surface of the land into woodland, grass-land and desert. This simple division is of little use to the zoologist. But when it is remembered that all animals depend ultimately for their food upon plants, it will readily be conceded that a modification of this classification may serve as a frame work in the study of animal distribution. The author discusses the question and ultimately divides the world into nine well-defined areas, each of which possess a characteristic fauna. Throughout the book he confines himself to a consideration of these nine natural regions but finds there are gaps left and hence has a final chapter for the consideration of the zoo-geographical regions into which zoologists have divided the globe. The greater part of the book is devoted to the geographical aspect of animal distribution; first the surface features of the natural regions are described, their boundaries are marked, then follow an examination of the climate of the region together with a description of the seasons in the region and a discussion on the plants of the Tundras so far as they affect animal life. Then comes the most interesting account of the fauna of the region and wherever necessary of the marine forms which occur round its seaward margin. The book is profusely illustrated and the bibliography at the end of each chapter must be of great value to teachers interested in the study of the subject.

(2) We have had occasion to commend to the acceptance of teachers the six different parts of this geography now presented to us in two

volumes. They have many special features, the treatment is on thoroughly scientific lines. The volumes are very well illustrated. The books will do very well as text-books in the lower secondary forms of our schools.

(3) Mr. O. J. R. Howarth, Assistant Secretary of the British Association, has made his *Commercial Geography of the World* unique in some respects. We note he has departed and wisely from the traditional methods followed hitherto by writers on this subject. The very first chapter is devoted to "general considerations." The author discusses here the influence of climate and relief on commerce and industry. On climate and rainfall certainly depends not only the distribution of natural vegetation and of animals (partly though in the natural state but also man's ability to cultivate certain plants or domesticate certain animals in certain regions. Climate and weather affect transport also. The distribution of universal products does not certainly depend on climate but man's ability to work the deposits profitably is often dependent on it. Climate again affects the distribution of man over the earth and his capacity for and manufacturing and commerce.

Climate is again dependent to some extent on land forms. The surface features of a land have close relations with its commerce. Elevation affects vegetation and vegetable products. The sea and great rivers are high ways of communication; mountains, deserts, swamps obstruct it. It is satisfactory that in the treatment of the subject these considerations are taken into account thus a mental discipline of a very high value.

The book is up-to-date and we see that the statistical information is taken from the latest *Statesman's Year Book*.

HAZELL'S ANNUAL, 1914, EDITED BY T. A. INGRAM, M.A., LL.D. 29TH YEAR OF ISSUE. 3/6 net.
HAZELL, WATSON & VINEY, LTD., 52, LONG ACRE, W. C.

This most popular and long standing Annual has been revised to November 25th, 1913, giving the most recent and authoritative information on the topics of the day with copious Index. As we find in the preface, it has obtained a unique reputation as the one publication which, while giving a concise account of the political, military, naval, financial, and commercial conditions and resources of foreign countries and of British

Dominions beyond the seas, provides also such a record of the past year as serves to make present events more intelligible. Many new articles are found on various important matters, as Home Rule and the land question. The Book in its revised form will be widely welcomed as a standard work of reference.

PUBLICATIONS RECEIVED.

- Heralds of the Morning, by Asa Oscar Tait, Pacific Press Publishing House, California. Rs. 6-8-0.
- Elements of Astronomy in Tamil, by S. Balakrishna Iyer. Kumbakonam: Hindu Educational Trading Co. Re. 1.
- Junior Geometry, by A. G. Cracknell, M.A., B.Sc., F.C.P. London: Clive.
- Applied Mechanics for Engineers, by J. Duncan, Wh. Ex. M.I. MECH. E. London: Macmillan. 8s. 6d.
- The Purpose of Education, by St. George Lane Fox Pitt. London: Cambridge University Press. 2s. 6d.
- The Madras Presidency with Mysore, Coorg and the Associated States, by E. Thurston. London: Cambridge University Press. 3s. net.
- Hazell's Annual for 1914. London: Hazell. 3s. 6d. net.
- Text-Book of Botany, by Willis and Howson. London: Clive. 6s. 6d.
- Muslims in China, by The Rev. Canon Sell. Christian Literature Society, Madras. 2 As.
- Ten Noble Women, by Margaret Bretherton. Christian Literature Society, Madras. 4 As.
- The Strength of Love, by Miss Louise Marston, translated (in Tamil) by Rev. N. Devasagayam, B.A. Christian Literature Society. 5 As.
- The Renaissance in India—Its Missionary Aspect, by the Rev. C. F. Andrews, M.A. Christian Literature Society, Madras. Re. 1.
- A First History of England, by J. Nelson Fraser. Bombay: Cooper. Re. 1-2-0.
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- An Anthology of English Verse, by A. J. Wyatt, M.A., and S. E. Gaggin, M.A., London: Clive. 2s. 6d.

- Sound, by J. W. Capstick, M.A. London: Cambridge University Press. 4s.
- Vestiges of Old Madras. Reprinted article from 'Royal Engineer's Journal.'
- Report of the Committee upon Home Reading. Chicago National Council of Teachers, Illinois. 10 Cents.
- The Children's Classics, Senior II, No. 62. The Lances of Lynwood. London: Macmillan. 5d.
- A Junior Geography of the World, by B. C. Wallis, B.Sc., F.R.G.S. London: Macmillan. 2s. 6d.
- Lord Clive—A Drama, by T. S. Krishna Iyer. Trichinopoly: Students' Home, St. Joseph's College. 12 As.
- Essays of Elia, edited by A.H. Thompson, M.A., F.S.A. London: Cambridge University Press. 2s. 6d.
- Last Essays of Elia, edited by A. H. Thompson, M.A., F.S.A. London: Cambridge University Press. 2s. 6d.
- The Indian Year Book, edited by Stanley Reed, LL.D. The "Times of India" Office, Bombay.
- Epitome of the History of Rome, by C. L. Colaco, B.A., and K. V. Ranga Iyengar, B.A. Madras: The Authors, Law College.
- Shorter Modern Dictionary. London: Macmillan. 1s.
- Matriculation Latin Course, by B. J. Hayes, M.A., and A. J. F. Collins, M.A. London: Clive.
- Exercises in Mathematics, by David Beveridge Muir, M.A. London: Macmillan. 4s. 6d.
- Shakespeare's Stories, by Constance and Mary Maud, London: Arnold. 5s. net.
- An Introduction to Economics for Indian Students, by W. H. Moreland, C.S.I., C.I.E. London: Macmillan. 5s.
- Divine Life devoted to Sacrifice of Self-Evolution of Man. The Divine Life Press, 614, Oakwood, Chicago. 10 Cents.
- Modern English Speeches and Addresses, selected and edited by J. G. Jennings. Bombay: Longmans. Re. 1-4-0.
- Longman's Indian Reading Books, Grade I: Little Lady of the Sun, 6 ps.; Rama and Sita, 6 ps.; Grade II: Tales from Panchatantra, 2 As.; The Boyhood of Krishna, 2 As.; Grade III: South Indian Tales, 3 As.; Grade IV: The Story of Rama, 4 As. The King's Tale, 4 As.; Grade V: Romantic Tales and Legends, 6 As.

- Short Manual for Indian Teachers: Notes on School Equipment, by J. Nelson Fraser, M.A. Re. 1; Physical Development—A Discussion of Rules for Games and a Few Practical Hints on Exercise, by J. Nelson Fraser, M.A. 8 As. Bombay: Longmans.
- Census Report, Vol. I, Part I, Report, Rs 5. Part II, Tables, Rs. 4, by E. A. Gait, C.S.I. C.I.E., I.C.S. Calcutta: Government of India Press.
- English Literature for Secondary Schools: Sirtum: A Garland of Prose Narratives, Book I, by J. H. Fowler, 1s.; Wanderings in Spain, by F. A. Cairnagh. 1s.; Tales of a Grand-father, by Sir Walter Scott, 1s. London: Macmillan.
- Improved Extraction Apparatus and Reflux Condenser, designed by Probodha C. Chattopadhyay, M.A., M.S.C.I.—A Circular issued by the Bengal Chemical and Pharmaceutical Works, Ltd., Calcutta.
- Lowson's Text-book of Botany, Indian Edition, Adapted by M. Willis. London: Clive.
- First Year Course in Mathematics, by K. J. Sanjana, M.A. Bombay: Cooper. Re. 1-12-0.
- Representative English Comedies from the Beginning to Shakespeare, edited by C. M. Gayley. London: Macmillan. 6s. 6d. net.
- A Book of English Prose arranged for Preparatory and Elementary Schools, by Percy Lubbock, in two parts. London: Cambridge University Press.
- First Stage Hygiene, by Robert A. Lyster, M.D. London: Clive.
- International Review of Commerce and Industry, edited by T. Swinborne. London: Upcott Gill and Son. 2s. net.
- Ramayanam: Sundarakandam—A Drama in Tamil, by K. Venkatarama Iyer, B.A. Kumbakonam: T. Krishnasami Iyer. 4 As.
- Progress of Education in India, Vol. I, Sixth Quinquennial Review, by H. Sharp, C. I. E. Calcutta: Government of India Press. Rs. 4.
- High-Roads of Literature, Book V. London: Nelson. 1s.
- Modern Business Routine—Home Trade, by R. S. Osborne, F. S. S. London: Wilson. 2s. 6d.
- A Source-Book of English History, Vol. II, by Arthur D. Innes, M.A. London: Cambridge University Press, 3s. 6d.
- Old Time Stories and Old World Customs, by A. Gertrude Caton. London: Macmillan. 1s. 9d.
- "High-Roads" Dictionary. London: Nelson. 6d.
- Mad Sir Geoffrey, by Florence Warden. London: The Aldine Publishing Co. 3d. net.
- A Primer of English Literature, by W. T. Young, M.A. London: Cambridge University Press. 2s. net.
- Book-keeping in Verse, by W. H. Arch, London: Wilson. 1s. net.

BOOKS OF THE OXFORD UNIVERSITY PRESS.

- Hazlitt on English Literature: An Introduction to the Appreciation of Literature, by Jacob Zelitlio, Ph. D. 5s. net.
- College English: A Manual for the Study of English Literature, by Frank Aydelotte. 3s. net.
- Robert-Bridges: Poet Laureate: Readings from his poems—A public lecture delivered by T. H. Warren, M.A. 1s. net.
- Religion and Free Will: A Contribution to the Philosophy of Values, by W. Bennet. 7s. 6d. net.
- Vasavadatta: A Sanskrit Romance by Subhanda, translated by L. H. Gray, Ph. D. 6s. 6d. net.
- The Poetical Works of William Blake: with an Introduction and Notes, by John Sampson. 2s.
- A Text-book of Elementary Statics, by R.S. Heath, M.A. D.S.C. 4s. 6d.
- A Century of Parody and Imitation, edited by Walter Jerrold and R. M. Leonard. 2s.
- Milton's Lycidas, L'Allegro, Il Penseroso, edited by Oliver Elton. 1s. net.

Indian Educational Notes.

MADRAS.

Government Orders—The Government sanction the proposals of the Director of Public Instruction for the distribution of a further subsidy of Rs. 2,76,500 to the various district boards and municipal councils for the construction of elementary school buildings.

The Accountant-General is requested to place the amounts specified at the disposal of the local bodies concerned. The expenditure will be met from the special Imperial grant of 23 lakhs for education provided in the civil budget estimate for 1913-14.

The excess involved in the revised estimate submitted by the correspondent of the Wesleyan Mission High School, Triplicane, and as altered by the Chief Engineer, Public Works Department, being Rs. 6,067, the Government are pleased to sanction an additional grant not exceeding one-half of that amount nor Rs. 3,033 towards the cost of providing additional accommodation for the school. The maximum amount of the grant sanctioned in G.O. No. 697, Educational, dated 3rd October 1911, as modified by G.O. No. 826, Educational, dated 23rd November 1911, and by these orders will thus be Rs. 16,850.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure nor Rs. 31,100 towards the cost of making certain extensions to the building occupied by the U.F.C.M. High School, Conjeeveram, Chingleput district, subject to the following conditions:—

- (1) That in carrying out the work the suggestions of the Chief Engineer are adopted; and
- (2) that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with.

On the above conditions being fulfilled the grant will be paid as funds become available.

The Government approve with retrospective effect from 1st July 1913 the proposals of the Director of Public Instruction.—

(i) to increase the ordinary rate of stipends for secondary grade masters from Rs. 10 to Rs. 12 per mensem and the special rate for secondary grade Hind and Muhammadan mistresses from Rs. 12 to Rs. 14 per mensem; and

(ii) to increase the ordinary rate of stipendiary grants for secondary grade masters from Rs. 6 to Rs. 8 per mensem and that for secondary grade Hindu and Muhammadan mistresses from Rs. 8 to Rs. 10 per mensem.

They are, however, unable to accept his proposals to grant compensation for dearth of food to all students under training in Government institutions who are in receipt of a stipend of more than Rs. 9

per mensem and to increase for a similar object the stipendiary grants to those in aided training institutions by Rs. 1-8-0 per mensem.

Doveton Girls' High School, Madras.—The annual distribution of prizes to the pupils of the Doveton Girls' High School, came off recently in the Museum Theatre with Lady Atkinson in the chair. The pleasant function was largely attended by the parents and realtions of the pupils. The proceedings commenced with a hymn and prayer. The report for the year 1913 was read by Mrs. Sampson. The Rev. Mr. Neill on behalf of the Doveton girls thanked Lady Atkinson for presiding on the occasion and expressed the hope that she would, after her going Home, find some time to visit this country in the cold season, just at the time of the prize-distribution and he was sure that she would do that inasmuch as she had been the President of the School Committee for seven years and had taken a deep and abiding interest in the Doveton girls. An interesting programme of glee, song, drill, gipsy chorus and dance was gone through. A tableaux of senior girls was then presented. With three cheers to Lady Atkinson and three more to the staff, the proceedings came to a close.

S.P.G. College, Trichinopoly.—The Annual College Day of the S. P. G. College, the High School and the affiliated Schools, Trichinopoly, came off on the 14th instant and the College presented a happy and gay appearance. The entrances into the College and the High School were decorated with shrubs and evergreens and splendid arrangements were made in the College grounds in the matter of decoration. The Principal was "At Home" in the College grounds from 4 to 6 p.m., when light refreshments were served, the Regimental Band of the 73rd Carnatic Infantry playing by the permission of Lt. Col. J. A. London and the officers of the Regiment.

At 6 p.m., the Right Reverend the Lord Bishop of Dornakal opened the Schwartz building erected in commemoration of the 150th Anniversary of the institution. There was a large gathering present on the occasion with a fair sprinkling of European ladies and gentlemen. The total cost of this block of building (High School) has been about Rs. 50,000 of which the Government will eventually have contributed about Rs. 20,000, while the Marriot Bequest has contributed Rs. 7,500 and the S.P.C.K. Rs. 3,000 already and a supplementary contribution is expected. More than a hundred and fifty years ago the S. P. C. K. founded this institution and maintained it for 61 years before handing it over to the S. P. G. in 1823 together with all its other Missionary institutions in India. At the request of the Rev. A. F. Gardiner, M. A., Principal, the Lord Bishop opened the Tablet amidst loud cheers. After the National Anthem, the Principal presented the Annual Report. After the presentation of the Annual Report Mrs. Neville Priestly distributed medals and prizes to the successful students and

the Lord Bishop of Dornakal then delivered an Address based on the working of the institution. He began by paying a glowing tribute to the memory of Father Schwartz who was the founder of this ancient institution at Trichinopoly and to the succession of Principals who were strongly imbued with the spirit of promoting knowledge among the illiterates there. He was glad that of late years the institution managed to rear heaps of new buildings and to keep an efficient staff and equipment. Passing on to the prize-winners he congratulated them on their exertions which made them recipients of prizes and wishing them God speed in life asked them to face the battle of life with courage and strong character, imbued with the spirit of doing good to humanity. His Lordship then spoke of the successful working of the Social Service Brotherhood which was a step in the right direction and hoped that it would be worked up with dogged pertinacity. The proceedings terminated with National Anthem and a display of fireworks.

The Sethupathi High School Silver Jubilee.—The Sethupathi High School Madura, celebrated its *Silver Jubilee* on the 23rd, 24th and 25th ultimo with great *clat*.

The several games and sports in connection with the celebrations were held on Friday, the 23rd, in the public play-ground in the Dufferin's Park at 3-30 P.M. Messrs. N. R. Krishnamma, B.A., Assistant Inspector of Schools, Manikavasagam, B.A., B.L. and A. M. Daraisami, B.A., acting as judges. There was a large crowd of spectators including Messrs. Rao Bahadur G. Sreenivasa Row, B.A., and K. R. Venkatarani, B.A., B.L., to witness the fun. The programme was varied and interesting and the greatest enthusiasm prevailed. Prizes were also awarded to winners. On the morning of the 24th, the school pupils, to the number of one thousand, were treated to sweets. In the afternoon at 3 P.M. the gentlemen of the town and the past students of the school numbering in all seven hundred were treated to tea and light refreshments. At 5-30 P.M. the twenty-fifth anniversary and the prize-giving of the school was held with Mr. B. C. Smith, I.C.S. District Judge of Madura, in the chair. The premises of the school were tastefully decorated and beautifully illuminated. The hall was literally packed. There was in the central part of the hall a nice little stage for juvenile actors. Among the audience there were present Messrs. T. O. Hodges, D. M. Dorai Raja, Row Bahadur G. Sreenivasa Row, M. Madhu Iyer, A. Rengasami Iyer, V. Manickam Pillai, V. Ramachandra Iyer and a great other many prominent citizens.

The proceedings began with Sanskrit songs by pupils in praise of the Emperor and the Empress. These were followed by the songs and dialogues of boys which were appreciated by the audience. Mr. C. Narayanasamy Iyer, B.A.-L.T., the Headmaster, then presented his report for the year 1912-13.

Mr. Hodges gave a detached account of the school and its staff. The report was a record of steady progress, the fact that the school had reached its present strength of nearly 1,000 boys was something to be proud of. He hoped that the deficiency of accommodation would soon be rectified. He referred to the advantages of corporate life and said that the hostel was much more popular than it was some years ago. He said Mr. F. H. Hammet, his predecessor in office had suggested that with regard to games the boys should be divided in sections and the system had been tried in several English-schools with considerable success. Three things he said deserved attention in the education of boys. The building up of character, the cultivation of a hobby, and interest in games. Boys should be trained to become honest men and some sort of hobby should be cultivated such as music, painting, botany, literature, and the like, so that it might be a source of pleasure to them in after life. Last thing he would mention was that every boy should go in for games. The report mentioned that boys could not take part in tennis and cricket on account of the costliness but he would suggest the formation of a fund and with the help of local gentlemen, the defect could be remedied. In conclusion he congratulated the school authorities on the excellent condition of the school.

The Chairman and the Inspector of Schools were then garlanded and the Headmaster in a short speech proposed a vote of thanks to the Chairman and the Inspector of Schools and the gentlemen present. Then some scenes from the Merchant of Venice were staged by VI and V Form pupils and all the players particularly Shylock did their parts so exceedingly well that the whole building resounded with applause. The day's function terminated with the singing of 'Rule Britannia' and 'God Save the King.'

On Sunday the 25th 'Old Boys' met together at 2 P.M., and elected, new Secretaries for the year and passed a resolution that, in commemoration of the happy event, steps should be taken to build a Silver Jubilee Memorial Hall at a cost of about Rs 20,000, over the present Victoria Hall of the Setupathi High School. At 3 P.M., there was a musical entertainment by Sesha Bhagavatar of Madura.

At 5-30 P.M., there was a public meeting with Mr. D. M. Dorai Raja, B.A., B.L., in the chair. Several toasts were proposed and responded to. The Chairman proposed the toast of the 'King-Emperor' which was honoured, all standing, and singing the National Anthem. The other toasts were—'The Setupathi and the Setupathi High School,' 'The Sister Institutions,' 'The Old Boys,' 'The Young Friends' and 'the Guests.'

After a few humorous dialogues by the Lower Form pupils, the Chairman made a brief, but delicious speech, and wound it up by wishing long life and prosperity to the Setupathi High School. Mr. M. Varadaraja Aiyar, Secretary to the Jubilee Committee, proposed the usual vote of thanks to the

chair. The Headmaster then announced that the next day would be a holiday. Amidst loud cheering the meeting came to a close.

The Native High School, Palghat.—The twenty-eighth Annual Day in commemoration of the founding of the institution was celebrated recently amidst great enthusiasm. The late and present students foregathered to exchange greetings on this happy occasion and later a tea party was given to which the public responded in large numbers. Mr. V. K. Desikachariar, the Sub-Judge, presided over the public meeting held at 6 P.M. in the spacious compound of the institution. In opening the proceedings Mr. Desikachariar made an interesting speech. Mr. Davey, the Principal of the Victoria College, spoke a few words in appreciation of Mr. Parameswara Iyer's work in the cause of education. Mr. V. V. Parameswara Iyer was then presented with an illuminated address congratulating him on the happy occasion. Mr. Parameswara Iyer made a happy and touching reply, in which he returned thanks for the congratulatory address given to him and the many kind things said of him. He doubted if he deserved all the good things said of him. He adumbrated a scheme of an Educational Colony started recently in England and hoped in time to come to realise in a humble way the scheme mentioned above in his own institution. He once again thanked the public for the generous help extended to him to achieve his object.

CALCUTTA.

Scottish Churches College.—The following lines are from the speech delivered by Her Excellency Lady Carmichael at the prize-distribution of the Scottish Churches Schools Training College:—'I have been to a good many schools in Calcutta lately taken by Miss Brook—your School Inspector—there are so many that I have not been able to go to all nor have I yet been here, but I am quite sure that those schools are doing the best work; where there is a spirit of sympathy between the teachers and their pupils—there must be this spirit in the teaching, this spirit in the learning, and this is the spirit which I hope you have here. There must also be a high ideal before you—an ideal which is to make the education of girls such as will fit them to become strong helpful women—women that can meet the troubles which will undoubtedly be before them in their lives with a large sympathy for the sufferings of others. Women can have an enormous influence for good on those around them. By their example they can make much for good or for evil, and I am sure the ideal in this school is for good—one that will help them to be good wives and good mothers and helpful to those around them. I was glad to hear of the visit to the Dufferin Hospital and the singing and the gift of the dolls and the great pleasure and happiness that the little visitors left behind, I congratulate you all on the good

work which is being done and may you go on and prosper.

Dacca College.—On the 11th instant, His Excellency presided at the annual prize-distribution at the Dacca College. The Principal of the College, Mr. Barrow, read the report for the year. This was followed by recitations by the boys of different classes in five different languages, English, Bengali, Sanskrit, Arabic and Persian. The prizes were then distributed. Among the recipients of medals was Quamarudin Muhammad who stood first in Philosophy in the B.A. examination. The most distinguished student of the college during the year was Paresch Chandra Mukherji who passed the M.A. Examination and was placed in Class I. His Excellency congratulated those who had won the prizes and in a very interesting speech addressed the students of the College.

Eden School.—Her Excellency Lady Carmichael presided at the prize-giving of the Eden School. Lady Carmichael was received by the Principal, Miss Lena Sorabji. The gathering was held in a tent under the trees in the beautiful garden attached to the school. The pupils entertained Her Excellency with a programme of songs, music and recitations in which all joined from the lowest class to the highest. At the conclusion of the pupils' programme, Miss Sorabji read the annual report.

BOMBAY.

Sir Alfred Hopkinson at Junagadh College.—Sir Alfred Hopkinson, Vice-Chancellor of Manchester University, who has come to India to advise the University of Bombay as regards its future development along modern lines, paid a visit to Junagadh the other day and addressed the students of the College there. He said:—'When yesterday I promised to address the students, it was mainly for three reasons: 1st, I am very fond of Indian students, a good sprinkling of whom come over to England to study law and technology. 2nd, I wanted to sound a note of warning. When contemplating any changes, one must never lose sight of the old adage 'Rome was not built in a day.' Time and patience are essential elements in the development of all great ideas. 3rd, India has always appealed to my imagination. With the deepest concern have I ever considered how much that we know has come from the East; how much has been done that is for the benefit both of the East and the West. Hence, I readily complied with the request of the University of Bombay to embrace the opportunity thus afforded of visiting India. I have noticed how very warm and keen interest is evinced in education by those who are employed by the Government. I must not omit to mention the good work that is likewise being done by private schools. Everywhere, there is life, there is vigour, there is earnestness.'

ALLAHABAD.

Free Education in Narasingarh—Speaking at the prize-distribution ceremony of the local boys' and girls' schools, His Highness the Maharaja of Narasingarh in Central India made the interesting and important announcement that education in that State would henceforth be made free. We congratulate His Highness on this progressive step which is evidence of enlightened liberality as well as of wise patriotism.

PUNJAB.

School Discipline in England and in India.—Not long ago the Director of Public Instruction in the Punjab decided to punish the entire town of Bhiwani by disaffiliating the only High School of the place for the mischief of some one who set fire to the furniture in one of the rooms of the school. The Director would listen to no argument, no prayer and no entreaty that it was unjust to punish the entire town in this manner for the sin of one or two mischief-makers. He was inexorable in his decision and said that punish he must, and in the manner he thought right. We cannot imagine what would be the departmental mode of punishment in India for a strike of teachers on the scale that has commended itself to the British disciplinarians at Herefordshire in which pupils are resenting the presence of strike-breaking teachers and are overturning desks and throwing ink-pots and books about. Recently we also had experience of a quiet and orderly strike of the students of the Lucknow Medical College. We shudder to think what would have happened to those poor students had there been collisions in the streets as in Herefordshire between strikers and non-strikers serious enough to induce parents to intervene. Indian children with their ideals of ancient Gurukula and with their inborn respect for the authority of preceptors and parents can never even in thought be guilty of the excesses to which English lads are accustomed. And yet how rigorous are the rules of discipline which the educational policy of this country insists upon.—*The Tribune*.

TRAVANCORE.

Attingal High School Day—This was celebrated with much *clat* and rejoicings under the presidency of the popular Dewan, Mr. Rajagopalachari, M.A., B.L., C.I.E. The programme of the day consisted of amusements from 7 to 9.30 A.M.; public meeting from 4 to 5 P.M.; light refreshments at 5.30 P.M., and variety entertainment from 7.30 to 10 P.M. The meeting at 4 P.M. was presided over by the Dewan, and there was a full attendance. After the introductory speech of the Dewan, the Headmaster read a short history of the school. Mr. A. J. John, the Secretary of the Teachers' Association, and Mr. Narayanan Onni, Secretary of the Students' Literary Society, read their Reports,

Then came the toast to H. H. the Maharaja and to the school. Mr. Siva Ramakrishna Iyer, a teacher of the School, and Mr. Anantha Narayana Iyer proposed the toast to H. H. the Maharaja in two well-delivered speeches. The toast of the school was proposed by Mr. Harihara Iyer, an 'old boy.' In responding to the toasts, the Headmaster thanked Mr. Harihara Iyer (the old boy) for his encouraging words and congratulations, and pointed out the true nature of the wide gulf separating the students and the teachers. The President then amidst loud cheers, delivered his concluding speech, which was, as usual, very interesting and instructive. On the whole the meeting was a complete success.

Education in Travancore—Education made progress during the year. The total number of the recognised schools rose from 1,698 to 1,763 and their strength from 1,78,775 pupils to 2,04,971. Of the total number of the recognised schools, about half the number, 828, were departmental institutions and they accounted for 65 per cent. of the total strength. Taking the school-going population at 15 per cent. of the total population 40 per cent. of the children of school-going age were under instruction in a recognised school, against 35 per cent. in the previous year. There was a strengthening of the Government schools of all grades during the year. Two new Professors were secured for His Highness the Maharaja's College and steps were taken for organising the Honors Courses in English Literature and History in that College. In the secondary schools the liberal revision of the salaries of the teachers sanctioned at the close of 1907, was brought into effect during the year, and it attracted a large number of graduates and trained teachers to these schools. The revision of the staff of the elementary schools was continued and four more Taluks were completed so that at the end of the year, 18, out of the 23 Taluks of the State had been revised. The Government also opened a large number of new elementary schools. A liberal scheme of scholarships was sanctioned for the colleges and secondary schools, the benefits of which were thrown open to the private as well as to the Government institutions. Female education made progress, the total number of girls under instruction rising from 49,208 to 57,135, a particularly pleasing feature being the increase of the girls in the colleges from 18 to 30 and those in the secondary schools from 1060 to 1408. The licensing of teachers was continued, so many as 1403 new licences being issued during the year, the total number of licensed teachers at the close of the year working up to 6912. The inspecting agency was strengthened to cope with the increasing volume of work. In the result the gross expenditure on education went up by over three lakhs of rupees.

INDIA (GENERAL)

The quinquennial review of education by the Hon. Mr. Sharp has been published. It shows that the

numbers under instruction have risen from 5½ to over 6½ millions and the total expenditure from nearly 3¼ millions sterling to nearly 5½ millions sterling. Expenditure from public funds has increased by over a crore. The municipal grants given recently are over 3 millions sterling non-recurring and over £766,000 annually recurring. College students have doubled in number. The increase of pupils in secondary schools averages 41 per cent., and those under primary instruction have increased by 1½ millions and now stand at 6 millions. The numbers under technical education have nearly quadrupled since 1897, while the public expenditure has more than doubled in five years. The number of girls at school has increased by 47.7 per cent., and now approaches a million. Mahomedans at school have increased by over 32 per cent. A detailed review will appear in these columns later.

Foreign Notes.

The University of the State of New York—The Board of Regents of the University was established and incorporated by act of the Legislature in 1784. The continuance of the Board is provided for by the Constitution of the State. There are twelve Regents, who are elected, one each year by the Legislature in joint session.

The University of the State of New York, which as a corporate body the Regents constitute and govern, is the most comprehensive educational organization in the world. It includes in its constituent membership and has under its supervision all public schools of the State, and also, in the terms of the law, includes, as institutions of the University, all secondary and higher educational institutions which are now or may hereafter be incorporated in this State, and such other libraries, museums, institutions, schools, organizations and agencies for education as may be admitted to or incorporated by the University. By law the State Library and State Museum are specifically departments of the University, and the Regents are authorized to establish such other departments and divisions therein as they shall deem useful in the discharge of their duties.

Among their specific powers, the Regents are authorized to exercise legislative functions concerning the educational system of the State; to determine its educational policies, and make rules for carrying into effect the laws relating to education and the powers of the University. They have exclusive power to incorporate educational institutions and organizations; they may confer degrees and regulate their issuance within the State; they have power to visit and inspect educational institutions of the State, conduct examinations therein and require reports therefrom; they register domestic and foreign educational institutions and fix the value degrees, of diplomas and certificates from all parts of the world, when presented for entrance to schools, colleges, Universities and the pro-

fessions; they may establish and stimulate educational extension work and conduct examinations and grant credentials therein, and they supervise the entrance requirements to the professions of law, medicine, dentistry, veterinary pharmacy, optometry, the certification of nurses, public accountants, chiropractists and certified shorthand reporters.

The chief officers of the University are the Chancellor, St. Clair McKelway of Brooklyn, the President of the University, John Huston Finley of Albany, who is also the Commissioner of Education and thereby the chief executive officer of the entire State educational system. As Commissioner, he also has judicial power to hear and finally determine appeals from the action of school officers and authorities.

The International Commission on Mathematical Teaching of which the British members are Sir George Greenhill, Prof. E. W. Hobson, and Mr. C. Gifford will meet at the Sorbonne, Paris, on April 1—4, 1914, to discuss (i) the results obtained by the introduction of the calculus into the higher classes of secondary schools; (ii) the place of mathematics in higher technical education. The general opening meeting will take place on April 2, at 9.30 a.m. under the presidency of M. Lucien Poincaré, Director of Secondary Education, when Prof. P. Appel will welcome the members, and Prof. F. Klein, President of the Commission, will deliver an address. Prof. Emile Borel and Prof. d'Ocagne will read papers.

Dr. Maria Montessori's second international training course for teachers in her method of education as applied to young children, is taking place in Rome from February 23rd and will continue to June 30th, 1914. Dr. Montessori herself gives the lessons, and new "Case dei Bambini" (children's houses), which have been founded in Rome, gives ample opportunities of observing the children. The work of directing the observation classes has been undertaken by four of Dr. Montessori's assistants. The course consists of thirty lectures on the theory of her method by Dr. Montessori; 30 hours of practice work, either by Dr. Montessori or by one of the assistants under her direct supervision; fifty hours at least of observation in the Case dei Bambini. The lectures are in Italian, but will be afterwards translated into English and French to read to those students who wish to attend the readings in those languages. At the end of the course an examination will be held, and diplomas given to those who are deemed capable of applying the Montessori method of education to small children. The tuition fee for the course is £51. Of this sum, £10 is payable in advance to Dr. Montessori's secretary, Signorina Anna Fedeli, Via Principessa Clotilde 5, Rome, at the time of enrolment, the remainder being payable in Rome to Signorina Fedeli at the beginning of the course.

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Where plants used as illustrations in the text are unknown to Indian readers, plants found in India have been substituted.

An Index for Vernacular Names has been inserted, giving the Botanical Names and Vernacular Names of the more important plants mentioned in the text.

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SCHOOL AND COLLEGE SPORTING NEWS.

The Chingleput District Athletic Association.

This annual function took place at Saidapet this year. The sports opened with an inter-school football match which was won by the model school team of the Teachers' College. This was soon followed by the other races in running, jumping, etc. Among the several events, the most attractive one, was the badminton match between the Chingleput Mission School and the Conjeevaram Pachaiyappa's School which resulted in a win for the latter. Mr. H. S. Duncan, the Principal, Mr. R. W. Ross, the Vice-Principal of the College and Mr. S. P. Rice, I.C.S., the District Collector, took a keen interest in the sports and were closely watching the course and progress of the several events. The prizes were distributed to the winners on the evening of the second day by Mrs. S. P. Rice. Much credit is due to the energetic Secretary and to those junior pupil teachers and High School Assistants, who, in spite of the hot sun, ungrudgingly rendered excellent service, to make the function a brilliant success.

Inter-Collegiate Hockey Tournament.

MEDICAL v. XTIANs.

The second match in connection with the above Tournament was played between teams representing the Medical and Christian Colleges. The attendance was poor, as it was known that the teams were unequally balanced. From the bully-off the Medical forwards confined the ball in the Xtian territory. The first goal recorded in their favor was from a foul awarded against the Xtian back, Paul

followed this up with two more, and the score was eventually raised to five, when half-time was whistled. Matters improved to a considerable degree in the second half and a series of even exchanges followed. The later part of the second half saw the Xtians falling back once more and two more goals were added to the list. Appiah and Anantha Raman for the Xtians played well, but as a team they were completely outplayed, the Medicals winning by 7 to 0.

Inter-Collegiate Tennis Tournament.

PRESIDENCY v. ENGINEERING.

The final in the above singles Tournament was played on the Victoria Hostel grounds. A large number of spectators had assembled anticipating a keen fight, warranted no doubt by the form shown by the two men in the previous matches. In this they were not disappointed, the score very well indicating the nature of the play. Subba Rao of the Engineering College started well by taking the first two games. Gajapathi came in for the third. The fourth again went to Subba Rao. When the score had reached up to 4-3 Subba Rao, by gaining the ninth game, brought it up to 5-3. But Gajapathi steadily won his way up, and winning four games in succession secured the first set at 7-5. The opening stages of the second set were a repetition of the first, Subba Rao leaving at 4-1 at the close of the fifth game, Gajapathi now led and secured four consecutive games, the score now standing at 5-4 in favour of Gajapathi, the ninth game being won at love. Subba Rao now resorted to different tactics and brought the score to 5 all. Gajapathi, however, walked away with the next two games and won this set also at 7-5. Gajapathi thus winning the match and the Tournament.

The Educational Review.

We have not to go back even two decades to trace the first beginnings of commercial education in this Presidency, and yet, have much reason to feel

satisfied with the achievements that have been recorded in this particular chapter in the story of educational progress. Cradled in the commercial classes opened in 1885 in Pachaiyappa's College, during the Principalship of Mr. John Adam, the infant was moved in 1895 into its nursery, for the site of which Calicut was selected. On the reduction of the Government Training College in that town in 1894 to the status of an Upper Secondary School, the Government sanctioned the proposal of Dr. Duncan, the then Director of Public Instruction, to establish a School of Commerce in the place with a portion of the released funds, the idea having been to give the institution an itinerant character so that the instruction it imparted might gradually be diffused throughout the Presidency. Under its skilled and whole-hearted guardians, Mr. K. Subramani Aiyar, the first Headmaster, and Mr. S. Vaidyanatha Aiyar, his successor, it grew and thrived so well, however, that the idea of itineration was silently abandoned. The nursery was indeed modest—a spare room in the local Government Training School, with a handful of pupils receiving instruction in four commercial subjects up to the Intermediate grade. Mr. Subramani Aiyar had charge until 1900, and his quinquennium of Headmastership was marked by a progress that was continuous and substantial, so much so that his name will remain inseparably entwined with the institution. Mr. Subramani Aiyar migrated shortly afterwards to Bombay,

where he soon laid the foundations of commercial education so firmly that Bombay has gained the distinction of starting the first College of Commerce in India, and it is a striking tribute to the esteem in which he is held that the Bombay Government has appointed him Honorary Principal of the College pending the arrival of a permanent qualified Principal from England. Mr. Vaidyanatha Aiyar then assumed charge of the Calicut School of Commerce in 1900.

It may be broadly stated that the progress of commercial education in the Presidency is closely associated with the growth and development of the School of Commerce at Calicut. It was not long after it started work when two more subjects were added to the curriculum of the school, nor very long before classes for instruction in the advanced grades of all the six subjects were found not only expedient but necessary, as the response to a demand which came from practically all parts of Southern India, British Indian and feudatory. Later on, there was an exceptionally interesting departure in the opening of a special vernacular class to teach, in the district vernacular, the elementary portions of account keeping, commercial arithmetic, and commercial practice. Intended primarily for the Mopla community, whose instincts are commercial and industrial, this class has also attracted students of other communities, and many of those who have acquired the useful training imparted to them through the familiar medium of their home-speech go back to assist their guardians in business or to take up congenial situations in indigenous mercantile and banking houses, where they are able to keep books of account on an improved and efficient system, which is in

agreeable contrast with the methods of the untutored, if instinctively shrewd and long-headed, Indian business men. In 1910, the school witnessed another noteworthy development. The School Leaving Certificate Course which was introduced some few years ago for adoption in High Schools provides for a training in commercial subjects under the optional group in addition to the compulsory general education, in view to giving young men a suitable preparatory training for the serious business of life, and anticipating the demand this would create for qualified commercial teachers, the Government sanctioned in 1910 the opening in the institution of a special commercial training class for teachers, the admission being restricted generally to graduates and under-graduates, with a maximum number of 24 students and one year's course for each batch. Two batches have finished their course and most of them have had no difficulty in obtaining positions as commercial teachers in Secondary Schools. In view to meeting a further demand, the Government would seem to have sanctioned the re-opening of the Commercial Teachers' Class for a period of another year with effect from July 1914. To-day, the Calicut School of Commerce remains the only institution in the Presidency, if not in the whole of India, which imparts higher commercial education on well organised lines in all the six commercial subjects, including Book-keeping and Accountancy, Commercial Practice and Commercial Law, Banking Practice, and Commercial Geography and History, students being prepared for the Madras Government Technical Examinations in commercial subjects up to the Advanced grade and the Diploma Certificate in Commerce, the standard of the Advanced grade syllabuses in

these subjects being as high as for the senior grade tests of the London Chamber of Commerce Examinations.

A very few facts and figures will suffice to show the steady development of the institution and the gratifying manner in which its popularity has gone on mounting up. From a strength of 80 pupils in the first year, the attendance had risen to 150 five years later, and thereafter, the strength has represented an annual lowering of the record, until it has now reached over 300, the expansion being contributed to by most Districts and Native States in the Presidency and to a lesser extent by outside Provinces and States. As goes without saying, the development has called for more and more space and a larger and larger staff and equipment. Out-growing its modest nursery, the institution invaded room after room of the Training School, elbowing out prior occupants, and every other year raised a demand for additional teachers, till the staff now comprises the Headmaster with seven qualified Assistants and two clerks. The day came when the Training School proved unequal to the ceaseless pressure upon its space, and the Government recognised the demand for a new and separate habitation. This, costing about Rs. 50,000, was formally opened last year by the Hon'ble Mr. J. H. Stone, M.A., F.R.E.S., & I.E., Director of Public Instruction, and the estimate entertained of the school by the Department and the Government is easily apparent from the following remark made by Mr. Stone in the course of the speech delivered by him at the ceremony of opening the new building, which is centrally situated and admirably designed for the purpose for which it was

intended:—"The Government is not very eager to put up large and commodious buildings for institutions which are not in a healthy condition and only after the school had, by a number of years' continuous and steady development, attracted the attention of the Government, did the Government contemplate the expenditure of a large sum of money in providing a building of this kind."

The school includes in its equipment a large and valuable Library of Commercial and Industrial literature, and it is proposed to add to this useful adjunct a small museum of economic products that will be of use in illustrating lessons in commercial geography. A proposal has also been sanctioned for the opening of a hostel, and when this has been accomplished, the institution will be well in a position to claim that it is self-contained in every essential respect, although, at the same time, its scope of usefulness would very considerably be widened, if the Government opened a special class for the training of Auditors to meet the requirements of the new Indian Companies Act. Events that have been transpiring of late in the world of business and banking foreshadow incidentally a demand all over the country for qualified and trained Auditors and Accountants, and with the facilities provided in the institution to which, if needed, any special improved equipment may be easily super-added for the efficient training of such men, there should be no necessity whatever to send anywhere outside the Presidency those of its young men who desire to obtain such a training. Indeed, were any such necessity created, its artificial character would be only too obvious, more than which it would amount to an ignoring of the Presidency's special capabilities to undertake this particular branch of

commercial education, capabilities which it has been at pains and enterprise to acquire, whilst other Presidencies have been so much slower in realising the value of commercial instruction as part of the general educational system. But if the training imparted in the school has always been admirable, it cannot be said that the class of students who have availed themselves of the excellent opportunities offered have been all that could be desired. A fairly high standard of general education is the prime requisite if one is to obtain the fullest possible benefit from a complete specialised course of training in the school; but, if a larger number of such men have not joined the institution, this must be attributed in large measure, if not wholly, to the demand for such men having been hitherto limited by the conditions prevailing in the Presidency. It was only when the Government created openings for qualified commercial teachers that there was an influx of students of the requisite standard of intellectuality and general training, and nothing perhaps could better testify to the efficiency of the teaching given in the school than the circumstance that some of those that have gone through the special commercial teachers' class and the general classes for the diploma course in commerce are serving efficiently as Accountants, notwithstanding their having had no specific training for the work of either Accountants or Auditors. It would be extremely wide of the mark, however, to assume that the young men who have passed out of the institution after training have gone to swell the ranks of the army of the unemployed and the discontented, for, as a matter of fact, there has been and continues to be an encouragingly brisk demand for their services, and hundreds of young men, who have

obtained certificates on the completion of the full three years' course, are serving in all parts of India and Burma, some few in such distant areas as Ceylon, the Federated Malay States, East Africa and the Persian Gulf country as mercantile clerks. Some few too have set up on their own account as Auditors, Bankers, Merchants and Business Agents, and this little enumeration should serve to show also that the progress of commercial education has meant the creation of respectable and lucrative openings for numbers of youths who might otherwise have degenerated into drones in the national hive. Perhaps, there could be no keener or more competent judge of the quality of the work turned out by the school than the employer of commercial labour and that he has judged the institution favour-



RAO SAHIB S. VAIDYANATHA AIYAR.

ably is beyond question. The European firms on the coast take an active interest in

the school, and have been showing a marked preference for the services of those whom it has trained.

Connected with the institution from its birth, Rao Sahib S. Vaidyanatha Aiyar has been its Headmaster these past 14 years, and the growth and development of the institution represents the fruits of his restless energy, his organising and initiative skill, his business talents, his abounding enthusiasm for his work, which he has made his principal interest in life, and his living regard for and sympathy with young men. He is the author of two excellent books, one on 'Commercial Practice, and the other on 'Book-Keeping and Accountancy,' which have been recommended as Text-books for the subjects and have received a warm welcome in both educational and commercial circles. He is not content with giving his charges an efficient commercial training, and recognises the vital importance of character-building as an indispensable part of a sound education, and he inculcates the love of manly sports and exercises. He infects his Assistants with his own zeal and professional ardour, while by example far more than by precept, discipline is maintained at a high level with scarcely apparent effort, and, needless to say, all this must make for the progress of an institution, men trained in which will owe true success in later life to a combination of such qualities and qualifications as professional efficiency, strenuous living, adherence to the codes of morality and righteousness, and the spirit of enterprise and foresight which is as a sixth sense to the man of business. The strain of his work and responsibility notwithstanding, Mr. Vaidyanatha Aiyar contrives to find much time to devote to the clean, healthy activities of public life, and so, he is to be seen in

such various roles as Honorary Magistrate, Municipal Councillor, President of the Zamorin's College Board of Management, speaker at public functions, Honorary Secretary to Sports and kindred Committees and so on; he is also a Member of the Board of Examiners for Commerce and Member of the Text-book Committee, and whatever part he fills, it is plain to those who watch him that his motto is "Whatsoever thy hand findeth to do, do it with all thy might." Wherefore, he is always in demand and popular with all classes and creeds, and the Government, recognising his merits as an educationist and a citizen, conferred on him the title of Rao Sahib as a well-deserved Coronation Durbar distinction, one which those who know him intimately know it came unsought, though by no means unmerited. It may with confidence be anticipated that, under his expert guidance and control, the School of Commerce will continue to grow and develop and fulfil its mission of quickening the pace and elevating the level of commercial and industrial enterprise in this country.

Having briefly described the origin, progress, and present condition of commercial education in this Presidency, we may consider for a moment the interest evinced by the Government in this important branch of public instruction, as measured by the amount of financial support extended to it. It is true that much pioneer work has been achieved and the cause has received very commendable impetus at the hands of the Director; yet, it is obvious that a great deal more remains to be accomplished by way of establishing similar institutions in other important centres in the Presidency to extend the scope and standard of this branch of education, and of

enlisting the interest, support, and co-operation of the mercantile community. From the Report before us of the School of Commerce for 1912, we find that the net cost of the institution for the year from Provincial funds amounted to Rs. 2,193, excluding the cost of stationery articles and commerce periodicals supplied to the institution by the Superintendent of Stationery and the Accountant-General respectively. A comparison of this figure with those relating to the outlay on other professional institutions in the Presidency for the same period shows only too clearly that commercial education receives far less than its adequate share of State support, and the circumstance must call forth attention, especially in view of the fact that the extension of sound commercial education is calculated to encourage young men to take to callings in the productive and distributive fields that now largely lie fallow and deserted, as well as to discourage what Lord Curzon once aptly described as the tendency to crush through at a single gap in the hedge. The emoluments of the teachers employed in this branch of education require to be considerably improved and enhanced if the best men are to be attracted for the work, so that the quality of the special training and instruction given may be kept up at a high level of efficiency and usefulness. There are also important problems in connection with organising schemes for driving home to the commercial student the importance of a high level of intellectual culture and general attainments, and the need and utility for men of such type to go through a course of higher commercial education, and of devising methods by which educationists in the line and business men should combine to fuse the

practical and experimental aspects of commercial knowledge with the theoretical and technical part of it by bringing about a living, active co-operation between the two classes. Perhaps it will require the presence of one or two commercial experts in the Senate of our University to secure its due share of attention for commercial education, and we may conclude with the expression of the hope that this void will soon be filled. Having given the lead to the other Provinces in the matter of commercial education, Madras should not, and certainly need not, be content to be relegated to a back seat.

Last month we could make no more than a passing reference to the Science Congress which met at Calcutta on the 15th, 16th and 17th January. The movement was first mooted two years ago by Professor MacMahon of Lucknow and Simonson of Madras, but was dropped, because it was feared that science workers in India were so far apart from one another that it was not possible for them to meet all in one year. But this year advantage was taken of the celebration of the Hundredth Anniversary of the Indian Museum, Calcutta, and of the facilities consequently provided by the Government of India to scientific workers to proceed to Calcutta and the Indian Science Congress has been started and we hope its career would be a successful one. The Hon'ble Justice Sir Asutosh Mukerji welcomed the scientists and gave a brief history of the movement. Then the first session commenced and papers on the Hot springs of Raj Darbhanga, Borohydrates, Santalin, an improved method of using oil-gas, the action of nitric oxide on metallic peroxides suspend-

ed in water, the action of light on silver oxide, an application of New's Law of Universal Attraction to certain newly-observed facts in physical chemistry and direct combination of nitrous acid with primary, secondary, and tertiary aiming were read. The afternoon session was devoted to Physics and the papers read showed much greater originality than those of all other sessions. Dr. Walker discoursed on seasonal forecasting and prophesied that the time would come when the weather could be forecast three months ahead. Prof. Jackson read a paper on Climatic Difficulties in the use of Quadrant Electrometers. Mr. C. V. Raman read two very interesting papers. The first was on Vibrations and their Maintenance. By means of a slide containing a photographic record of the motion of a violin bow and of the point of the vibrating spring in contact with it, he proved that the velocity of vibration was exactly equivalent in both cases and thus explained the extraordinary responsiveness of the violin string to the motion of the bow when properly handled. His other paper dealt with various new classes of vibrations which Mr. Raman has discovered in which the frequency of the driving force and of the vibrations were related to each other in various ratios standing in harmonic progression. Eleven such types and their combinations were demonstrated. We are proud that the papers showing the best kind of research work were by a Madrassite gentleman, who was educated in two of our colleges—the Mrs. A. V. N. College, Vizagapatam and the Presidency College, Calcutta. The Calcutta University has offered the University chair in Physics to Mr. C. V. Raman. It is a pity that his own University, which Mr. C. V. Raman will, of course, be proud to have the oppor-

tunity of serving, has not opened a chair that will suit him.

The second day of the Congress was devoted to Zoology and Botany and Geology. Dr. J. R. Henderson presided. The subjects dealt with in the morning session were Medical Entomology, Hilse cultivation, the function of the Peritoneum in the absorption of liquids, aquatic animals, etc. The geological papers on the Kamti Beds, the Gondwana system and Radio activity of the Kolar Rocks were next in importance only to those on Physics. The third day was devoted to Anthropology. Mr. L. K. Ananthakrishna Iyer, author of "Cochin Tribes and Castes," an Indian scientist who has a European reputation, read a paper on the Marriage Customs of the Cochin castes. He also exhibited lantern slides illustrative of the life and customs of Nambudiri Brahmins. Other papers dealt with worship of mud turtles, the Shan tribes of Yunnan and magic and witchcraft of Chota Nagpur. Mr. L. K. Ananthakrishna Iyer proposed and Mr. C. V. Raman seconded that the next Congress be held at Madras and after some discussion the proposition was carried. We hope that Madras would rise equal to the occasion and not only arrange for the meeting but would organize other sections. At the first Congress one gentleman proposed to read a paper on some characteristics of the Dravidian Languages, but as a Philology Section could not be arranged, the paper could not be read. We regard a Philology Section and a History Section absolutely necessary.

Rev. J. C. R. Ewing, Vice-Chancellor of the Punjab University, delivered an interesting address at the annual Convocation held on the 23rd December, 1913. He did

not propound any new principle or policy, but gave useful, if a little obvious, advice to the people assembled. He pointed out the three distinct functions of a University: (1) Research, which is "obviously the crown and the coping-stone of the University Curriculum, a stimulus and inspiration for both those who teach and those who learn." This entails plenty of funds and a careful choice of men to do the work. (2) The discovery and training of the Honours men, "men who are capable by virtue of native endowment of such accomplishment as must remain for ever impossible to the average student." Such men will naturally be the leaders of the coming generation and hence adequate provision should be made in every University for training them. (3) The education of "the average student, the rank and file of the lecture-hall, who after all, form the most important part of the constituency of every organized centre of learning. It is he who by virtue of his numbers and his needs makes the largest demand upon the care and thought of his teachers." The Madras University possesses the unique distinction of having an Honours without a corresponding Pass degree, for what is called the B. A. degree is a demi-honours degree and therefore unfit for "the rank and file" of the lecture-room.

Dr. Ewing then proceeded to point out the evil effects of examination, but that every man does, though very few will point out how the well-known defects of examination can be remedied. Dr. Ewing himself suggests Library work under proper guidance to be a corrective, but does not discuss in detail how this could be worked with profit. The Reverend Vice-Chancellor next denounced

vigorously the materialistic tendencies of the age and eloquently pleaded for the improvement of personal character and the development of the altruistic spirit. He concluded with this stirring peroration. "Gentlemen, we have seen that the call of the day is for those who are trained to think clearly and broadly; men of principle who scorn that which is mean and false, and stand firmly for that which is honourable and true, whatever be the cost; and the aggregate of whose influence operates at a mighty force to elevate the entire moral level of the community or province or country. In so far as you can justly claim a place among these, the course of study you have now completed has already been crowned with success, and the lives that lie before you are exceedingly rich in their possibilities for others and for yourselves."

Sir Alfred Hopkins has not let grass grow under his feet in Bombay. He has already sent in a preliminary report of the needs of the Bombay University. He condemns the holding of University examinations in temporary structures. He regards as urgent the immediate provision of a "definite location" for the University to carry on its business and advanced work which it is proposed to develop. He thinks it is not impossible to provide what is necessary in the central situation where the University is now placed. In view of the acoustic properties of the University Hall he recommends the Readmoney Hall to be used for this purpose. The same reasons require a similar extension to the Madras Senate House. Moreover several University lecturers are going to be appoint-

ed in the near future and as yet nothing has been done to provide them with rooms where they can conduct research and, when necessary, deliver lectures. To return to Bombay, Sir A. Hopkins is of opinion that "if a continuous space along the whole frontage from the University Library to the Science Institute could be devoted to it the site of the University and the two colleges adjoining would not I believe be surpassed anywhere."

The Chief Secretary to the Government of H. H. the Maharajah of Travancore. Bravo, Travancore. has issued a very shortly-worded order that the scale of pay of the three Indian Professors of the Trivandrum College be made the same as the European covenanted officers. For this purpose "the Indian officers will be brought into line with their European colleagues in the matter of pay." We are very glad that what has been declared frequently to be impossible, however based on justice, in our Government service has been put into practice in the Travancore State. It is really absurd that when two men do the same kind of work, equally well, the pay of one man should be many times the pay of the other. Any amount of sophistry will not convince any unprejudiced person to believe the contrary. How we wish the Chief Secretary to the Travancore Government or the Dewan of the State could have been examined by the Public Services Commission on this point.

At the same time the Mysore Government has also revised the scale of pay of the members of its Educational department. The scale now fixed is

Advance of pay
to Educational
Officers in
Mysore.

less than that of the corresponding officers in the Madras Provincial Service, but yet the total extra cost will be Rs. 78,788 per annum. The salaries of Inspecting officers range from Rs. 50 to Rs. 500 per mensem, and this cannot be called erring on the side of generosity. The teaching staff of colleges will receive salaries whose possible maximum is Rs. 1,000 and minimum Rs. 75, but for teaching Logic in the Intermediate class an allowance of but Rs. 30 is provided. In High Schools the salaries vary from Rs. 350 to Rs. 15 and in Anglo-Vernacular Schools from Rs. 125 to Rs. 10. Thus the Mysore Government assesses the worth of the lowest grade of schoolmasters at something less than that of a cook or a head peon. There is no more pitiable spectacle than this. It would make angels weep to notice after reading this: the remark of the Government that "the appointments will be made by selection, depending on merit." The teacher on the 10 Rupee grade is expected, of course, to be a master of Kindergarten methods, nay more, to be trained in the most recent system evolved by the Italian Anthropologist, Madame Montessori!

A curious instruction finds place in the order on this subject to the effect that "Government desire to lay stress on the desirability of periodical interchanges between the tutorial and the inspection staff, so that both branches may be in close touch with developments in the theory and practice of teaching." The Mysore Government imagines, we suppose, that Inspectors are theorists and teachers represent the practice of teaching. A more curious idea cannot be imagined. Outside Mysore this interchange is being denounced vigorously as such a see-saw

ruins the efficiency both of teachers and Inspectors.

The Mysore Government has published the following modification of one of its Educational Rules. "The number of Free Student-ships in Mysore. Rules. "The number of scholarships and full free studentships shall together not exceed 20 per cent. of the average number on the rolls of the class for the month after excluding Mahomedan and Rajput free and half-free studentships. One full-free studentship may optionally be considered as equivalent to two half-free studentships." In Madras, on the contrary, the Educational Rules do not contemplate any free studentships at all. True in private schools they are not prohibited but for purposes of grants, the school is treated as if it has collected full fees from all pupils. Apparently to palliate this hardship, the Madras Government gives away a few scholarships to poor and deserving students; only the really poor and the really deserving never get it, as the scholarships are distributed without any real attempt to discover those that really need it but in a hap-hazard manner. We know of many cases where scholarships have been given to quite undeserving pupils, so that the whole question deserves special consideration at the hands of a competent officer.

The reports of the various educational conferences that are so frequently being held in England. Educational unrest in England. show that the whole of English education seems likely to go soon to the melting pot and be recast on modern models. The great principles that are coming to prominence in these discussions

are according to Mr. Sadler, three. The first is the necessity for self-training on the part of pupils. The teacher will no more be a clever lion-tamer, and train unwilling pupils to do all sorts of mental balance feats. Madame Montessori's methods represent the ideal of this Self-Training. The reduction of subjects and syllabuses is the next thing aimed at. The idea of "General education" is gradually breaking down. General education tested by a final examination has been the ruin of education all over the world. The third characteristic of the time is the attention paid to the care and training of the boy as is evinced by periodical medical inspections of pupils—a thing which does not exist yet in India, where in all the above things we are far behind the time, quite out of touch with the European spirit of education.

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CHAPTERS:— I. Numeration, Notation and the First Four Simple Rules; II. Properties of Numbers—Tests of Divisibility—G.C.M. and L.C.M.—Graphical illustration of G.C.M.; III. Fractions (Decimals)—Metric System—Addition, Subtraction, Multiplication and Division; IV. Fractions (*continued*); Vulgar Fractions—Addition, etc. of Fractions, with Graphical illustrations; V. Reduction and Practice; VI. Ratio, Proportion and Rule of Three—Unitary Method—Ratio—Direct Proportion with Graphical illustration—Rule of Three—Inverse Proportion with Graphical illustration; VII. Percentages—Averages; VIII. Graphs. Introduction—Straight line-graph—Slope of a line—Graph of Statistics—Interpolation; IX. Approximation—Decimalisation of English and of Indian money—Errors—Significant Figures—Rough Approximation—Contracted Methods; X. *Square Root*; XI. Revision Papers [I Series]; XII. Miscellaneous Examples [I Series]; XIII. Interest—Present Worth and Discount—Simple Interest—Compound Interest—Harder Examples in Interest—True Discount and Present Worth—Practical Discount and Discounting of Bills; XIV. Profit and Loss; XV. Stocks, Shares, and Exchange; XVI. Area and Volume—Mensuration of Familiar Surfaces and Solids; XVII. Miscellaneous Examples [II Series]—Time, Work and Speed—Taxes and Rates—Alligation—Partnership—Insurance; XVIII. Revision Papers [II Series]; APPENDIX.—Recent Madras University Papers; Answers to Exercises.

SRINIVASA VARADACHARI & CO., TRIPPLICANE & ESPLANADE, MADRAS.

THE HISTORY OF INDIA AND THE MADRAS UNIVERSITY.

BY A VALUED EDUCATIONIST.

THE somewhat animated discussion over Mr. S. Srinivasa Iyengar's proposition to make the Constitutional and Economic History of India, a part of the B.A. Honours Course in History and Economics, and its ultimate fate in the Senate of the University are matters that call for more than passing attention at the hands of the public. It is notorious that the History of India has been accorded a step-motherly treatment at the University which neither the inherent interest in the subject nor the obvious duty of a body like the University seem to warrant in the slightest. Several causes have conspired to bring about this result for which the European members of the Senate cannot be held to be alone responsible. Recently, moreover, the attitude of some of those, that ought to know better, has been uniformly unfriendly to the subject, and this, from the position of power and influence that these European members have occupied, has proved very far from beneficial. It is as representing this attitude that the discussion in the Senate recently is worthy of attention.

Mr. Srinivasa Iyengar's proposition falls into two parts. The first to add two more subjects among those included in group A of the History Honours' Course, making three groups bearing upon the History of India, namely (1) History of India—a general survey of an advanced character. (2) Constitutional History of India—(3) Economic History of India. These are suggested, we take it, to bring the study of Indian History to a position co-ordinate with that of the History of England. A student is permitted to take three subjects from among this group of subjects, and these additions proposed will make it possible that a student can take all the three divisions of Indian History and take none else at all.

The other part of Mr. S. Srinivasa Iyengar's proposition is that one at least of these subjects on the History of India should be made compulsory.

There are at present six options in Group A, and eight in Group B, of which a candidate has to bring up three from each Group. There is no compulsory subject throughout the course at any rate theoretically. The question then is whether an exception should be made in favour of Indian History and if it should be what would be the consideration for this preferential treatment. That there is no compulsion in the course is hardly worth consideration as in practice, there is at present no option at all. Each college chooses certain subjects which candidates have to take whether they will or no; in these circumstances of the actual working of the Honours Course in this University it is nothing short of casuistry to bring such emphasis to bear on the principle of option. Even if the principle of compulsion be conceded with a view to making Indian Honours men being made to read Indian History, the compulsion ought to take the form of making the general survey of the History of India of an advanced character compulsory without the study of which it would be futile to read either the Constitutional or Economic History of India. This would certainly have been a reasonable position to take, and as it is understood, was taken in the Board of Studies, though for the time being a compulsory subject was considered undesirable, as no college had provided for the teaching of this subject.

It will follow naturally then that the two subjects proposed for inclusion in the Honours Course by Mr. Srinivasa Iyengar should rather go into Group B instead of into A, and be among the options, and that we have reason to believe were the terms of the recommendation of the Board of Studies in History and Economics. This arrangement would have met the end that Mr. Srinivasa Iyengar had in view and would have had the co-ordination so vigorously demanded by Mr. Corley at the Senate. In the result the eight optional subjects in Group B

would have been raised to 10, without in the least altering the character of the course one way or the other; because the colleges can go on as they do now teaching Louis XI and Louis XIV in preference, as in all probability they will do notwithstanding the Senate's resolutions to the contrary. It is this fatuous policy of the colleges, Government and private, that has called forth such a vigorous protest from the Dewan of Travancore on this very question, though in a more general aspect.

Everyone admits, in the Board of Studies or outside of it, that the History of India, is in the making and the subject would, therefore, be difficult for the student. The professor entrusted with the teaching of it is worth Rs. 75 on an average or Rs. 100 in exceptional cases. The Presidency College duplicated the professional staff, but would not so much as put in a Provincial Service man for the History of India. In private colleges it may be a tutor that does this subject. It is this bad management of the subject that calls for the remark that the subject receives indifferent attention, because the average European professor finds it difficult to negotiate it. For whatever the European Civilian may have done for Indian studies, the European Professor has never erred on the side either of too much sympathy or enthusiasm for them. It is passing strange then that Mr. Corley should have given cause for the unedifying spectacle of the angry discussion and unparliamentary compliments, and a division of the House indicating more of the temper of the moment than of thought for the future.

The History of India being thus neglected in the only course in which something real could be done to stimulate its study to any degree of usefulness, it is refreshing to turn to what the same Senate had done on a previous occasion for advancing the same study. Out of the recurring grant of Rs. 65,000 from the Government of India provision was made for the appointment of a Professor of Indian History and Archæology. Whom is he meant to address and what is to be his function? With the scant attention given to the History of India in the Honours

Course he will have no audience to lecture to; and the Syndicate seems to have a shrewd notion of it, if it be true they are in the look-out for an Archæologist for this chair. We have nothing but commendation for the choice of Mr. R. Narasimhachar of Mysore if the chair is to be one of Archæology. We know him such as no one responsible for the choice of him does, and his translation at this time to occupy the University chair would be a sad loss to Archæology. We make bold to question, however, the wisdom of the Syndicate in electing for an Archæologist for the University chair. What is the University chair of Indian History and Archæology intended for? Whatever it may be intended for, surely it cannot be for carrying on archæological or epigraphic work. The University, we hope, do not wish to raise examination fees of candidates for equipping an archæological department. There are Government departments for archæology and epigraphy. Their resources are found to be insufficient for carrying on work. The slender resources of the University cannot take up this work. The recent Madras G. O. warns the Epigraphist off the field of History. There have been collections of inscriptions made and in small parts published. What is wanted at present is the utilization of these materials for purposes of History, political, constitutional and economic. In the circumstances of the Presidency what would seem, to the average intelligence, to be the desideratum is that the chair should be occupied by a man who has done work in History with sufficient acquaintance with the languages of the country and the various lines of archæological and epigraphic work that are being carried on to teach advanced students to conduct research work with the materials published from time to time. We doubt whether an excellent archæologist is the kind of man equipped for it.

Whatever may, ultimately, be done in this matter we must state it emphatically that more attention should be paid to the History of India in all its branches, particularly in the higher courses of the University.

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PROPERTIES OF MATTER.

(A detailed syllabus.)

INTRODUCTION.

Preliminary ideas. The external world: the part played by the senses. Property of a body defined. Natural phenomena. Cause and effect. Civil law a *prescription*: Natural law a *description*. Observation, experiment, induction. The province of Physics defined. Physical change distinguished from chemical change.

GENERAL PROPERTIES OF MATTER.

Matter. Essential properties of matter—mass, extension, impenetrability, indestructibility, inertia. The three states of matter: cohesion. Divisibility: limit to the divisi-

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bility of matter. Mercurial shower shown with a piece of Malacca cane. Porosity of charcoal demonstrated by plunging red hot charcoal in mercury. Porosity of liquids. Glass non-porous. Sandstone: porosity demonstrated (Fig 15, Narasu's Physics). The pores of the skin and their importance.

MEASUREMENT OF LENGTH.

Units of Length. The British and Metric systems: a comparison. Metric equivalents of British measures and British equivalents of Metric measures. Average of measurements. Precautions to be observed in using a scale: parallax. Finding the length of given straight lines (Expt. 2, Sinclair; Ex. 1, Crew and Tatnall). Graphical representation of relation between centimetres and inches (Expt. 2, Sinclair.) Indirect method of measuring the diameter of a ball (Sec. 6a, Gregory and Simmons; Exp. 4, Sinclair). Measurement of curved lines: Exp. 5, Sinclair—First method by means of thread (Sec. 7b, Gregory and Simmons); Second method by using a pair of dividers (Sec. 7a, Gregory and Simmons); Third method—Tracing wheel (Sec. 7d, Gregory and Simmons); Fourth method by drawing chords and tangents; Fifth method: pins and thread (Sec. 7c Gregory and Simmons); Sixth method: Opisometer (Sec. 7e, Gregory and Simmons).

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Measurement of the circumference of a circle (Sec. 7f, Gregory and Simmons). *Evaluation of π* (Exp. 6, Sinclair; Ex. 3, Crew and Tatnall). Graphical representation of relation between circumference and diameter.

To etch a scale of millimetres on glass, (Ex. 16, Crew and Tatnall). Fractional Scales (Sec. 8, Gregory and Simmons). Calipers (Sec. 9, Gregory and Simmons). *The Diagonal scale* (Sec. 10 a, b, Gregory and Simmons; Sec. 17, Bower and Satterly). *Wedge* (Exp. 7, Sinclair; Sec. 10 c, Gregory and Simmons). *Thickness of glass tubing* (Exp. 7, Sinclair).

Vernier: forward-reading and back-ward-reading to read to 1/10, 1/9, 1/8, 1/7, 1/100 of a centimetre, 1/100 of an inch. (Exp. 8, Sinclair; Sec. 11, Gregory and Simmons: (properties of similar triangles explained). *The Slide Calipers: construction in cardboard and use* (Ex. 5, 6, Crew and Tatnall; Sec. 12, Gregory and Simmons). Principle of micrometer screw. Construction of model screw thread. *The Screw Gauge* (Sec. 13, 14, 15, Gregory and Simmons; Exp. 9, Sinclair; Ex. 8, Crew and Tatnall).

* *Spherometer* (Ex. 7, Crew and Tatnall; Sec. 16, Gregory and Simmons).

* *The Slide rule* (Ex. 15, Crew and Tatnall).

MEASUREMENT OF AREA.

Units of area. Representation of areas on a reduced scale. Comparison of British and Metric units of area. *Determination of areas by Squared paper.* (Sec. 20, Gregory and Simmons; Exp. 10, Sinclair; Exp. 11, Crew and Tatnall).

Area of a rectangle (Exp. 11, Sinclair). *Area of a parallelogram* (Exp. 12, Sinclair; Sec. 21a, b, Gregory and Simmons). *Area of a triangle* (Exp. 14, Sinclair; Sec. 21e,

f, Gregory and Simmons). *Area of a circle* (Exp. 15, Sinclair; Sec. 22, Gregory and Simmons). *Total Surface area of a cylinder* (Exp. 16, Sinclair; Sec. 24 a, b, Gregory and Simmons).

* *Surface of a Sphere: to prove that the surface of a sphere is four times the area of the hemispherical section or flat part obtained by cutting it into halves* (Sec. 23a, b, c, d, Gregory and Simmons).

Determination of areas by weighing: the area of a circle = πr^2 established (Sec. 26 a, b, c, d, e, Gregory and Simmons). Equality of parallelograms and triangles on equal bases and between the same parallels (Sec. 26f, g, Gregory and Simmons). The square on the hypotenuse of a right-angled triangle is equal to the sum of the squares on the other two sides (Sec. 26 h, Gregory and Simmons).

* *Comparison of area of England with that of Wales by gumming maps of England and Wales drawn to the same scale on cardboard and weighing them.*

MEASUREMENT OF VOLUME.

Units of volume. Relation between British and Metric measures. *Connection between unit of mass and of volume in the metric system* (Ex. 27, Watson).

Determination of volumes of simple solids by direct measurement: rectangular block, cylinder, square triangular prism, paralleloiped, triangular prism, upright and sloping solids. (Ex. 26, Watson; Ex. 18, Sinclair; Sec. 29, Gregory and Simmons).

Comparison of volumes by weighing solids made of the same material—rectangular block and paralleloiped of the same height and base; upright and sloping cylinders, pyramids, triangular blocks of the same height and base; a cone and a cylinder of

the same base and height, a pyramid on a square base and a rectangular block having an equal base; a sphere and a cylinder of the same height and diameter (Sec. 30, Gregory and Simmons).

Determination of volumes by geometrical rules:—Cube, Cone, Pyramids, Sphere, Cylinder, Square prism (Second method, Exp. 26—31, Sinclair; Sec. 31, Gregory and Simmons).

Volumes by displacement: To test if the graduations on a measuring jar are correct (Exp. 19, Sinclair). *The Burette: precautions in using: volume of a drop of water* (Exp. 20, Sinclair; Sec. 37, Gregory and Simmons). *Pipette. Litre flask. Relation between British fluid and cubical measures and between Metric fluid and cubical measures.*

To find the volume of a stone—five methods (Ex. 21, Sinclair; Sec. 38 a, b, c, d, e, Gregory and Simmons). *To find the volume of a body that floats* (Ex. 22, Sinclair; Sec. 38 f, Gregory and Simmons).

To find the volume of a piece of wire. (Exp. 23, Sinclair)

To find the volume of an insoluble powder (Exp. 24, Sinclair). *To find the volume of a soluble powder* (Exp. 25, Sinclair). *Determination of the volumes by displacement of a cube, a square prism, a square pyramid, a cylinder, a cone, and a sphere—comparison of the results with those obtained by direct measurement and geometrical considerations* (Expts. 26—31, Sinclair; Sec. 38g, h, Gregory and Simmons). *The diameter of a cylindrical jar from the volume of water it contains* (Exp. 32, Sinclair). *The diameter of a wire from its length and volume* (Exp. 33, Sinclair). *The thickness of a sheet of metal* (Exp. 34, Sinclair).

MEASUREMENT OF DENSITY.

Meaning of the term. Relation between mass and density. Care in choosing proper units in the use of the relation between volume and mass. Relative density and specific gravity. Unit of mass in the metric system (Sec. 39, Gregory and Simmons; Exp. 37, Sinclair). *Mass per unit volume of different metals* (Exp. 36, Sinclair; Sec. 40a, Gregory and Simmons). *Density of regular solids* (Sec. 40b, c, d, Gregory and Simmons; Ex. 12, 13, Crew and Tatnall). *Irregular solids: method of displacement* (Sec. 40e, f, g, h, Gregory and Simmons; Exp. 38, Sinclair).

Liquids: relative density by weighing a known volume of the liquid (Exp. 39, Sinclair; Sec. 41, Gregory and Simmons; *Pyknometer*; Ex. 14, Crew and Tatnall; Ex. 30, Watson).

Density of liquid by the density bottle (Exp. 19, page 35, Rintoul; Exp. 40, Sinclair; Exp. 31, Watson; Sec. 42c, d, Gregory and Simmons). *Density of shot by the density bottle* (Sec. 42c, d, Gregory and Simmons; Exp. 41, Sinclair).

CALIBRATION.

Graduation of a measuring flask (Exp. 31, Gregory and Hadley). *Calibration of a measuring cylinder* (Exp. 32, Gregory and Hadley). *Calibration of a pipette, burette* (Exp. 32a, b, Gregory and Hadley; Exp. 8, page 180, Wilson and Hedley). *Diameter of a capillary tube* (Expt. 53, Sinclair; Exp. 7, page 178, Wilson and Hedley). *Calibration of a capillary tube* (Expt. 32d, Gregory and Hadley; Expt. 8, page 179, Wilson and Hedley).

MEASUREMENT OF ANGLES.

The right-angle, degree, minute, second. *Protractor: circular, rectangular. Location of a point by stating its perpendicular distance*

from three reference planes at right-angles to one another.

PROBLEMS.

Why is fat rubbed into leather?—Why is the right-angle called a natural unit, while the degree is spoken of as a conventional unit?—Two plums are apparently the same size. How would you find which contained the more pulp?—How would you find the volume of a grain of rice?—In getting the capacity of a cylindrical beaker by getting how much water it holds a hole was accidentally knocked in the bottom. Suggest a method of finding the capacity.—Describe a method of measuring the length of a curved line, using no apparatus but a straight edge and a pencil.—A wooden block having some nails driven into it, is supplied to you, and also a piece of the same wood and a few of the same kind of nails. Find the mass of the nails in the wood.—You are given a rough block of hard granite; explain carefully how you could determine accurately the volume of the block in cubic inches.—An ink-bottle consists of a cube of glass, out of which has been cut an exactly hemispherical hole. What measurements and what calculations would be necessary to determine the volume of the glass? How could the previous result be checked or verified, if you had a beaker of water, a gummed paper strip, a burette or a measuring cylinder?—A porcelain weight of one pound breaks into two unequal fragments. How could you without using a spring balance or ordinary balance determine the weight of each fragment?—Suppose you were given two irregular pieces of metal, one of which was gold and the other gilded brass. How would you find out, by a physical method, which piece was gold?

LIST OF PRACTICAL EXERCISES.

1. Graphical representation of relation between centimetres and inches.
- *2. Indirect method of measuring the diameter of a ball.
3. Measurement of curved lines.
4. Evaluation of π
5. The diagonal scale.
6. Wedge: thickness of glass tubing.
7. Forward-reading and Backward-reading vernier.
8. Construction of Slide-Calipers.
9. Micrometer Screw-gauge.
- *10. Spherometer.
11. Determination of areas by squared paper.
12. Areas of simple figures and solids from geometrical considerations.
13. Determination by weighing of the area of a circle in terms of the square on the radius.
14. Connection between the unit of mass and of volume in the metric system.
15. Determination of volumes of simple solids by direct measurement.
16. Comparison by weighing of solids of the same material.
17. Determination of volumes of simple solids by geometrical rules.
18. The use of the Burette: volume of a drop of water, thickness of lead foil, diameter of wire, etc.
19. Other methods of determining volume by displacement.
20. The volume of a soluble powder.
21. Density of a regular solid.
22. Density of an irregular solid by displacement.

23. Density of a liquid by the density bottle.
24. Density of a solid by the density bottle.
25. Graduation of a measuring flask.
26. Calibration of a measuring cylinder.
27. Diameter of a capillary tube.
28. Calibration of a capillary tube.

These experiments on fundamental measurements are sufficient to occupy four periods a week during a session of fifteen weeks. It is not advisable to attempt too much in the early stages.

PROPERTIES OF SOLIDS.

Molecular Forces in Solids.

Evidence of molecular motion in solids—expansion of solids, enormous force exerted in contracting; sublimation of iodine, camphor. Diffusion of solids: typical instance of lead and gold at ordinary temperatures and of all other metals at 500 degrees C.

Elasticity of shape and of size. Main points of difference between solids and other states of matter. Cohesion and adhesion and the part played by them in welding, manufacture of lead pencils, mortar, glue, etc. Crystalline and amorphous bodies. Cleavage: calcspar. Hardness: the two senses in which the word is used. Tempering and annealing Rupert's drops and Bologna vials. Ductility: Platinum. Malleability: Gold. Tenacity: Iron. Comparison of the tenacities of two wires. Tenacity increased by being drawn out into wire: specific examples. Compression of a solid (Exp. 47, Gregory and Hadley). Within certain limits compression is proportional to the weight applied (Fig. 175, Narasu's Physics).

Relation between tension and extension: India Rubber, spiral spring (Sec. 83, Gregory

and Simmons; Exp. 33, 34, page 160, Rintoul; Ex. 54, Watson; Exp. 24, Crew and Tatnall). Use of Calibration-Curve with spring balance to measure mass. * To find the relation between the elongation of a stretched wire and the force producing it, when the wire is stretched within its limits of elasticity (Exp. 31, page 157, Rintoul).

Bending or flexure. The deflection of the beam for a given load measured. Neutral line: quills, bones, rails. Peculiar case of a tuning fork, page 156, Rintoul. *Within certain limits bending is proportional to the weight applied* (Exp. 35, page 161, Rintoul). *Relation between thickness of beam and the flexure produced by a given bending weight.* (Expts. 36, 37, pp. 162—165, Rintoul). *Relation between width and bending weight. Relation between length of a beam and the deflection produced by a given bending weight, other things being the same* (Exp. 38, page 165, Rintoul). Graphic representation of results. Examples of elastic bodies. Plasticity, viscosity.

* To measure the mass of a body without measuring its weight: the inertia balance (Ex. 17, Crew and Tatnall). * Relation of the period of a vibrating spring to the load which the spring carries (Ex. 19, Crew and Tatnall). * Elasticity of torsion (Ex. 21, Crew and Tatnall).

MASS, FORCE, INERTIA.

Definition of motion. Velocity: uniform and variable speed. Average speed. Unit of speed. Measurement of uniform linear velocity. Graphical representation of velocities by straight lines when (1) in the same direction, (2) in parallel directions, (3) inclined to each other. Composition of velocities: components, resultant, parallelogram of velocities. Production of motion by force: *space*

traversed proportional to the time when the velocity is uniform (Exp. 79, Watson; Sec. 93a, b, Gregory and Simmons). Velocity varies inversely as the mass to keep momentum constant (Exp. 85, Watson; Sec. 93c, Gregory and Simmons). Equality of masses based on ideas of impact—compare with volume test, and weight test. Momentum defined. Unit of momentum. Action and reaction: Newton's third law of motion. Familiar illustrative examples.

Relation between momentum and force: momentum a measure of the force (Sec. 94, Gregory and Simmons). Acceleration: rate of change of velocity.* A mass under the influence of a constant force moves with a constant acceleration (Sec. 95a, b, Gregory and Simmons; Ex. 81, Watson). *Force remaining constant, acceleration inversely proportional to the mass (Sec. 95c, Gregory and Simmons; Ex. 82, Watson). *Mass remaining constant, the acceleration is proportional to the moving force (Ex. 83, Watson; Sec. 95b, c, d, Gregory and Simmons).

Motion down an inclined board: distances covered increase in proceeding down from the starting place. Measurement of uniform acceleration. Unit of acceleration.

*Space passed over proportional to the square of the time from the start and is independent of the mass (Ex. 80, Watson; Sec. 96, Gregory and Simmons; Sec. 101a, b, c, Gregory and Simmons).

*Evaluation of formula connecting s , a , t (Sec. 97, Gregory and Simmons). *Space passed over proportional to height: the square of time inversely proportional to height of fall (Sec. 101e, f, Gregory and Simmons; Ex. 78, Watson).

Newton's second law of motion illustrated (Fig. 99, Narasu's Physics). Discuss the possibility of playing tennis on board the steamer.

Inertia: Newton's first law of motion. Familiar illustrations of the law. Instance of a monument in India which has been twisted on its base by a sudden gyratory earthquake movement. Proof that the earth is rotating on its axis: Foucault's pendulum.

PROBLEMS.

How does it happen that a loose hammer is fixed by striking its handle against something hard?—Place a wooden rod, one yard long and half an inch thick, with its ends supported on glass tumblers. Give a hard blow with a heavy stick or an iron rod at the centre of the rod. The wooden rod breaks without injuring the glasses. Why?—A heavy body dropped from the top of a high tower, about 250 ft. high, or more, instead of falling at the foot of the tower, falls a little to the east of it. Why?—A line is drawn upon the floor of a railway carriage from door to door. When the carriage is at rest a ball is dropped from the roof and falls on this line. What difference would be observed: (a) if the train is moving when the ball is dropped? (b) if the train starts when the ball is half way down? (c) if the ball is dropped when the train is in motion, but the train stops suddenly when it is half-way down?—A heavy weight is suspended from the end of a piece of string. A piece of the same string is attached to the lower surface of the weight. If the latter string is pulled with a sudden jerk it will snap; but if it is pulled gradually the upper string will be the first to break. Explain this.—A blast of fine sand driven against glass

soon cuts away its smooth surface. Why? If a rifle ball is thrown against a board placed on edge, it will knock it down; but when fired from a gun, it will pass through the board and leave it standing. Why?—Why can an athlete make a longer "running jump" than a "standing one"?—Why do moving railway coaches "telescope" in a collision?—Explain how heavy fly wheels serve to steady the motion of machinery, as in the case of the sewing machine.—If the earth were to cease rotating, would bodies on the equator weigh more or less than now? Why?—How is the third law of motion involved in the action of the rotatory lawn-sprinkler?—If the attraction of an apple for the earth is equal to that of the earth for the apple, why does not the earth meet the falling apple half-way?

COMPOSITION AND RESOLUTION OF FORCES.

Graphic representation of forces. To find the resultant of two forces acting at a point: parallelogram of forces (Ex. 63, Watson; Sec. 85a, b, c, 86a, b, Gregory and Simmons; Exp. 12, page 127, Rintoul). Converse experiment that any parallelogram can be regarded as representing certain forces (Sec. 85d, Gregory and Simmons). Application of the principle, Exp. 13, page 128, Rintoul; Sec. 86c, Gregory and Simmons). Principle of the triangle of forces. (Sec. 87a, b, Gregory and Simmons; Ex. 18a, b, c, Crew and Tatnall; Ex. 64, Watson). Equilibrium of a body when acted on by three forces (Sec. 87c, Gregory and Simmons; Ex. 64a, Watson; Ex. 18d, Crew and Tatnall). Geometrical determination of the resultant of two forces. Resolution of forces. Typical instances of (1) forces acting on a kite at rest in the air, (2) the sailboat and the aeroplane.

The polygon of forces (Exp. 82a, Gregory and Hadley).

Parallel forces. Resultant of parallel forces taking into consideration the mass of the lever (Sec. 71, Gregory and Simmons; Exp. 23, page 146, Rintoul; Ex. 65, Watson). *Conditions of equilibrium of parallel forces obviating the necessity of considering the mass of the lever (Sec. 72, Gregory and Simmons). Determination of magnitude and point of application of the resultant. Conditions of equilibrium of three parallel forces (Sec. 73, Gregory and Simmons). Moment of a couple: typical case of a magnetic needle.

PROBLEMS.

Draw a diagram showing a method for attaching three horses to a load so that they must pull equally—Construct a diagram to show how equilibrium is secured in the case of a heavy sinker, attached to a fishing line, dropped into a swift-flowing stream and allowed to move down stream until the line stops it. (Neglect the action of the water on the line, but consider the buoyant action and the friction of the water on the sinker.)—As two ships pass in opposite directions a person in one of them throws a ball to a person on the other. How must he aim? Draw a diagram to explain your answer.—Two men A and B support the ends of a wooden beam six feet long and weighing 1 cwt. A weight of $2\frac{1}{2}$ cwt. hangs from the beam at a distance of 2 ft. from A; what are the total weights supported by A and B respectively?—Forces of 2 grm., 4 grm., and 5 grm. act at a point, and are in equilibrium. What are the angles between their lines of action?—A weight which is hung by means of a piece of elastic from a nail in the ceiling is pulled some way to one side by a thread

which is always kept horizontal. Explain way this operation will increase the stretching of the elastic. Illustrate your answer by a diagram.—A picture of mass 3 lb. hangs vertically from a nail by a cord attached to rings at the two upper corners of the frame. If the string and the upper edge of the frame form an equilateral triangle, find the tension in the string.—Two forces, the magnitudes of which are proportional to the numbers 3 and 4, act on a point at right-angles to each other. Draw a parallelogram as nearly to scale as you can to show the direction and magnitude of the resultant, and deduce by measuring your diagram, or in any other way, the magnitude of the resultant.

A nail is driven into a wall and two strings are tied to its head. When the two strings are pulled horizontally and at right angles to one another with forces equal to 6 and 8 lb. respectively, the nail is dislodged. What forces would be needed if the strings were brought together and the nail pulled out? Illustrate your answer with a diagram.

GRAVITATION.

Law of Universal Gravitation. Symbolical representation of the law. Weight. Law of weight: weight above the earth's surface inversely proportional to the square of its distance from the centre of the earth. Weight of a body (1) in a deep mine (2) at the centre of the earth. Direction of gravity determined by the plumb-line: direction of gravity at poles and equator—slight variation elsewhere on account of the rotation of the earth on its axis.

CENTRE OF GRAVITY.

Definition. Geometrical determination of the centre of gravity of a parallelogram, a

triangle, and a quadrilateral. *Experimental determination of centre of gravity*—uniform rod, circular disc, parallelogram, triangle, quadrilateral, *irregular figure, open frame work* (Exp. 27, 28, 29, pp. 149—151, Rintoul; Sec. 74, Gregory and Simmons; Exp. 66—68, Watson). Relation of centre of gravity to base of support—(1) when the support is a point as in the plumb-line or a stick balanced on the finger, (2) when the body has two points of support as in the case of a man walking on stilts, (3) when the body is supported at more than two points. Conditions of equilibrium (Sec. 75, Gregory and Simmons). Three different states of equilibrium determined. Application of these principles to the common balance. Diagrams of a balance with equal loads and with unequal loads. Positions assumed by a man with a load on his back, in one hand, etc.

FALLING BODIES.

"Bodies in a vacuum fall with equal velocity" established by "coin and feather" and "Coin and paper disc" experiments. Water-hammer. Uniform acceleration applied to falling bodies. Motion of a freely falling body uniformly accelerated (Fig. 83, Narasu's Physics).

* *Velocity proportional to time of falling; space varies with the square of the time: the acceleration twice the space through which a body falls in the first second*—these laws established. (See Fig. 84, Narasu); Expts. with inclined board and with Attwood's machine (see Sec. 96, 97, 101a, b, c, Gregory and Simmons; Ex. 78—83, Watson). Comparison of time of ascent with that of descent (Sec. 100, Gregory and Simmons). * Bodies projected horizontally: time taken to reach the ground compared with that of a body dropped vertically—an application of the second Law.

* CURVILINEAR MOTION.

Revision of Newton's first law of motion. Uniform circular motion. Tendency of bodies to fly off at a tangent. The sling. Centripetal acceleration. Application of the parallelogram of forces. Illustrations—cream separators, extraction of honey from uncapped combs, centrifugal driers, Watt's Governor Balls, "Loop to loop" apparatus. The Spheroidal form of the earth. Distinction between mass and weight.

THE PENDULUM.

Sidereal day; Solar day; mean solar second. The pendulum. Pendular motion due to gravity: application of the parallelogram of forces. *Relation between time of oscillation and length of pendulum determined experimentally and expressed graphically* (Sec. 80a, b, c; Gregory and Simmons; Ex. 76, Watson; Ex. 26, Crew and Tatnall). *Length being kept constant to find if the time of oscillation varies with the material of the bob, the mass of the bob, amplitude of the swing* (Sec. 80d, e, Gregory and Simmons; Ex. 75, 77, Watson).

* *Construction of a second's pendulum* (Sec. 80f, Gregory and Simmons).

* *Vibrations of a thin flexible lath* (Ex. 88, Watson; Sec. 81, Gregory and Simmons).

Examination of a clock and of the balance wheel of a watch. Sand glasses, water glasses. The Sun-dial (Chap. X, Richardson and Simmons' Practical Geography).

THE INTENSITY OF GRAVITY.

Units of force. The weight of a gram in dynamical units—poundal, dyne (Sec. 98, Gregory and Simmons). * *Determination of the intensity of gravity* (Sec. 99a, Gregory and Simmons—description of an ingenious device). *The Pendulum: evaluation from formula* (Ex.

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84, Watson; Sec. 99c, d, Gregory and Simmons).

* The inclined plane (Sec. 101d, Gregory and Simmons).

PROBLEMS.

What is the object of ballast in a ship?—Which of two bodies having equal weights possesses the greater stability, a pyramid or a rectangular box having the same base and height as the pyramid?—If the mass of the earth were doubled without any change in its shape or size, how would a person's weight be affected?—If two masses are in equilibrium when placed in the pans of a beam balance at the equator, will they still be in equilibrium when tested in the same manner at San Francisco?—Why is it more easy to balance on one's finger a stick loaded at one end when the load is at the top of the stick than when it is near the finger?—Show that, when the path of the centre of gravity of a body is a horizontal straight line and that when the path is curved, the equilibrium is stable or unstable according as it curves upwards or downwards—A wooden disc, loaded with lead near its circumference and placed on a slightly inclined plane sometimes rolls up hill. Why? See Fig. 126, Narasu's Physics—A double cone is laid on a track made of two rails placed somewhat higher and farther apart at one end than at the other. The double cone moves towards the higher end of the rails. Why? See Fig. 125, Narasu's Physics.—Why does a man place his feet well apart when he wishes to plant himself very firmly?—Where lies the centre of gravity of a wire of uniform thickness bent into the form of an angle with unequal arms; of a square of sheet metal bent at right angles along a diagonal; of the arrange-

ment of pencil and penknife shown in Fig. 109, Narasu's Physics.—Which is heavier, a pound of feathers or a pound of lead?—Suppose the interior of the earth were annihilated leaving only a thin crust to stand upon, would there be any change in the weight of a lump of lead?—A piece of cardboard, nine inches long and six inches broad, is divided into six equal squares by means of a ruler and pencil. One of the two squares that are not corner squares is cut away with a penknife. Find the centre of gravity of the remaining piece of cardboard.—A square sheet of cardboard weighing 8 oz. is suspended by a thread fastened to one corner, and a weight of 4 oz. is fastened to one of the corners adjacent to the corner of suspension. Draw a diagram to show the position in which the sheet will hang, and say what is the total weight that the thread supports.—How would you determine the centre of gravity of an iron hoop made by joining together two semi-circles one thicker than the other? Explain how the observations could be used to find out which was the thicker half of the hoop.—A solid hemisphere made of uniform material is placed with any part of its curved surface upon a horizontal plane. Show that, however thus placed it will tend always to a position of stable equilibrium with its flat surface horizontal and uppermost. What other positions of equilibrium are there? Which of them are stable and which unstable?—Why is a pyramidal shaped structure more stable than a prismatic one of equal base and altitude?

SIMPLE MACHINES.

Definition of machine: direction, magnitude, and point of application. Simple

machines—why so called: Lever, pulley, wheel and axle, inclined plane, screw, wedge: reducible to two—lever and inclined plane.

THE LEVER.

Explanation of terms—rigid, fulcrum, power, weight, resistance, mechanical advantage. Case of a simple lever with equal masses hanging at equal distances from the fulcrum (Sec. 66, Gregory and Simmons). Principle of moments (Ex. 56, 57, Watson; Sec. 67, Gregory and Simmons, Ex. 20, Crew and Tatnall; Ex. 17, page 135, Rintoul). Explain how in these experiments the weight of the lever may be neglected. Sum of the moments of the forces on one side equal to the moment of the force on the other. (Sec. 67b, Gregory and Simmons; Ex. 58, Watson; Exp. 13, page 137, Rintoul).

Classes of levers: Fulcrum between resistance and effort; Resistance between power and fulcrum; and power between fulcrum and resistance. Experimental verification of the law of moments in each of these cases (Expts. 89—91, Gregory and Hadley). Examples of each of these varieties of levers in ordinary life. The use of the crowbar as a lever of two different orders. The relative advantages with illustrative examples of levers of the second and third orders.

Inclined forces acting on a lever (Exp. 59, Watson; Exp. 21, page 139, Rintoul; Sec. 68, Gregory and Simmons). * Law of tangents verified (Exp. 22, page 140, Rintoul). *The principle of work applied to levers* (Sec. 69, Gregory and Simmons). Heavy lever when the fulcrum is not in the vertical through the centre of gravity of the lever (Exp. 69, Watson; Exp. 25, page 148, Rintoul). *Indirect determination of the weight of a lever* (Exp. 70, Watson).

THE BALANCE.

The principle of the balance. Special precaution in weighing. Sensibility of a balance: *estimation of sensibility with load and without load* (Gregory and Hadley, page 41). How the sensibility is affected by increasing the load. *Weighing by vibration*: (1) *when the sensibility is previously known*, (2) *when it is not known* (Gregory and Hadley, p. 41.) Weighing by substitution (Gregory and Hadley, page 42).

To test the equality in the length of the arms of a balance (Exp. 60, Watson; Exp. 20, page 137, Rintoul). Use of a rider (Exp. 61, Watson). Determination of the true mass of a body weighed in a false balance, i.e., one with unequal arms.

Roman steel yard, Danish steel yard, Bent-levier letter balance, weighing machine (Sec. 70, Gregory and Simmons).

THE PULLEY.

The pulley an endless lever of the first order with equal arms. Use of the single fixed pulley: change in direction (Sec. 76, Gregory and Simmons; Ex. 73, Watson; Ex. 25b, Crew and Tatnall). Use of the fixed pulley. Sailor's plunge bath: how one can raise himself with a power equal to half his own weight. *The movable pulley: tension in string; mechanical advantage* (Sec. 77, Gregory and Simmons; Ex. 25c, Crew and Tatnall; Exp. 74, Watson). Two movable pulleys (Sec. 77b, c, Gregory and Simmons). Combination of a fixed and a movable pulley (Sec. 78, Gregory and Simmons). *Combinations of pulleys (Ex. 10, page 124, Rintoul; Ex. 25d, e, Crew and Tatnall). Principle of work applied to pulleys: what is gained in power is lost in speed (Sec. 79, Gregory and Simmons).

THE WHEEL AND AXLE.

An endless lever of the first order with unequal arms. Mechanical advantage. Capstan, Windlass, Belting, Gear wheel, Cranes, Dericks. Applications of the principle of work to the wheel and axle.

THE INCLINED PLANE.

Length, base, height, inclination, gradient. *Force acting parallel to the plane* (Ex. 14, 15, pages 129—132, Rintoul; Sec. 90a, b and 91a, b, Gregory and Simmons; Ex. 71, Watson; Ex. 24, Crew and Tatnall). *Force acting horizontally* (Sec. 90c, d, and 91c, Gregory and Simmons; Ex. 72, Watson). Wedge an instance of a double inclined plane where the power acts horizontally: familiar examples.

* *Mesasurement of the reaction of an inclined plane* (Sec. 92, Gregory and Simmons; Exp. 100, Gregory and Hadley).

Graphic representation of conditions of equilibrium upon an inclined plane when the power acts (1) parallel to the plane, (2) horizontally. Mechanical advantage. Principle of work applied to the inclined plane. Practical advantages—approaches of bridges, ladders, staircases, etc. * Friction on an inclined plane (Ex. 16, page 133, Rintoul).

THE SCREW.

Principle of the screw. Thread, nut, pitch. Mechanical advantage of the screw: power parallel to the base of the plane. The Jack screw, Screw Gauge, Screw Drill, Endless screw, Screw Propeller.

PROBLEMS.

"Give me a lever long enough and a support strong enough and I shall lift the whole world with my own weight." Examine the truth of this statement.—Of two boys riding on a see-saw who enjoys the ride best?—How may the centre of gravity of

the human body be found by the arrangement shown in Fig. 163, Narasu's Physics—A stearine candle is provided with an axle by sticking two hot needles in its middle. This axis is supported on two wine-glasses. The candle is then lighted at both its ends. The candle see-saws. Explain.—In what two ways may an oar be used by a boatman?—When the arm is being extended in striking a blow, to what lever class does it belong?—What are the requisites of a good balance? Which of these is most important for a balance used for: (a) heavy goods; (b) scientific purposes?—Explain how a weight, a pulley, and a chain can be arranged so as to make a door shut when it is let go. Draw a diagram. What weight has the force to overcome as it shuts the door?—A penny lies at rest on a sloping desk. What forces are acting on it? Draw a diagram showing clearly the direction of each.—What must be the inclination of an inclined plane so that a given force, whether it acts horizontally or parallel to the length of the plane, will support the same mass? (This question should be answered by means of diagrams). Part of a chain rests on an inclined plane, and the remainder hangs over the back. Draw a diagram to show in what position the chain will rest if the plane is so smooth that friction need not be taken into account. Give any explanation you think necessary.

FRICTION.

Limiting friction and sliding friction. Limiting friction greater than sliding friction (Exp. 2, page 115, Rintoul). The amount of friction depends on the nature of the surface in contact (Sec. 88a; Gregory and Simmons; Exp. 5, page 115, Rintoul; Ex. 24f, Crew and Tatnall). Friction is independent of the area

of surface in contact (Sec. 88b, Gregory and Simmons; Exp. 3, page 117, Rintoul; Ex. 24g, Crew and Tatnall). Friction proportional to the load: *co-efficient of friction* (Sec. 89, Gregory and Simmons; Expts. 4–5, pp. 117–119, Rintoul; Ex. 24c, d, e, Crew and Tatnall). *Angle of friction or of repose* (Sec. 88 c, d, Gregory and Simmons; Exp. 16, page 133, Rintoul).

* Friction of cords (Expts. 6–8, pp. 119–123, Rintoul).

Various methods employed to diminish friction. Rolling friction. Instances where friction is increased. What would happen if there were no friction. Friction in liquids: ships wedge-shaped. Friction in air bobs of pendulums lens-shaped. Perpetual motion. Efficiency of a machine.

PROBLEMS.

In what way is friction an advantage in lifting a load with a jack-screw? In what way is it a disadvantage?—Why is it more difficult for a team of horses to start a heavy load on a hard road than to keep it going after it is started?—Why is it more expensive to run a fast train than a slow train?—Why is it difficult for a locomotive to start a train on wet rails? How is the difficulty overcome?

* WORK AND ENERGY.

Work defined: typical cases of work done against cohesion, chemical attraction, gravity, adhesion, magnetic and electrical attraction. Elements involved in work—force and distance; time not an element. Units of work: erg, foot-poundal; kilogramme-metre, foot-pound. Joule.

Activity or rate of work—unit of activity: horse-power; Watt. Relation between kilowatt and horse-power.

Energy defined. Heat, Light, Magnetism, Sound, Electricity established by means of familiar typical instances of bodies possessing potential energy—an elastic spring, a bent bow, steam, a head of water. Potential energy. Kinetic energy. Measure of kinetic energy. Transference and transformation of energy with familiar examples. Conservation of energy—illustrations, the pendulum and a falling stone. Matter and energy.

PROBLEMS.

Describe an experiment to prove that energy due to visible motion can be transferred from one body to another.—What proof can you adduce that the energy of visible motion can be transformed into heat?—In driving a well a heavy weight is elevated by a horse and then allowed to fall upon the end of a vertical pipe, thus forcing it into the ground. Trace the energy changes taking place in the process.—Trace the transferences and transformations of energy in the process of driving a nail; of planing a board; of shooting an arrow; of throwing a stone; of winding a clock; of running a sewing machine; of beating an egg.—Account for the energy of the water above a dam in a river. What becomes of this energy?—In what form is a supply of energy taken on board an ocean steamer? In what form is energy supplied to a locomotive, to an automobile, to a horse, to a man?—Explain the statement that coal possesses the solar energy of previous ages stored in it.

LIST OF PRACTICAL EXERCISES.

1. Relation between tension and extension: India Rubber cord.
2. Calibration of a spiral spring.
3. Bending proportional to weight.

*4. Relation between weight required to produce a given bending and (1) length; (2) thickness; (3) width of the beam.

*5. Space traversed proportional to the time when the velocity is uniform.

*6. Velocity varies inversely as the mass to keep momentum constant.

*7. A mass under the influence of a constant force moves with a constant acceleration.

*8. Acceleration proportional to the mass.

*9. Space passed over independent of the mass and proportional to the square of the time from the start and inversely proportional to height of fall.

10. Parallelogram of forces; Triangle of forces.

11. Conditions of equilibrium and resultant of parallel forces.

12. Experimental determination of centre of gravity of an irregular figure and of open frame work.

*13. Laws of falling bodies.

14. Relation between the time of oscillation and length of a pendulum.

15. Relation between the time of oscillation and (1) mass of the bob, (2) material of the bob, (3) amplitude of the swing.

*16. Construction of a second's pendulum.

*17. Vibrations of a thin flexible lath.

*18. Determination of the intensity of gravity.

19. Inclined forces acting on a lever.

20. Indirect determination of the weight of a lever.

21. Weighing by vibration.

22. Movable pulley: mechanical advantage.

23. The inclined plane: force acting parallel to plane; force acting horizontally.

* 24. The measurement of the reaction of an inclined plane.

25. Coefficient of friction.

26. Angle of friction.

On the supposition that about 50 periods of 50' each are available for the study of "Mechanics of solids," 14 double periods may be set apart for practical work and the remaining 22 periods for demonstration and teaching.

PROPERTIES OF LIQUIDS.

Liquids practically incompressible. Transmission of pressure by liquids. Pascal's law. Familiar illustrations. Water as machine. The hydraulic press: lever one of the second order. Principle of work applied to the press. Bramah press why so called. Numerical Problems.

Pressure due to gravity. Pressure gauge Fig. 187, Narasu's Physics. Relation between pressure of liquid and depth. Pressure dependent on density and depth of liquid. *Pressure at a point in a liquid the same in all directions* (Sec. 50, Gregory and Simmons; Exp. 34, page 46, Rintoul). * *A liquid exerts pressure at right-angles to the surface on which it is pressing* (Exp. 33, page 46, Rintoul).

* *Relation between pressure of liquid and area: Total pressure* (Sec. 51, Gregory and Simmons). * *Pressure independent of shape of vessel and volume of containing vessel* (Sec. 52, Gregory and Simmons). Hydrostatic paradox: extractor press; hydrostatic bellows. Lateral pressure. Revolving fountain jets. Barker's mill. The free surface of a liquid at rest horizontal. The free surface not necessarily plane,

Communicating vessels; water level. Fountains, artesian wells. Superposed liquids in equilibrium. Spirit level—how to use it, how to test its correctness.

* *To measure the pressure of the gas supplied to the laboratory* (Exp. 35, page 47, Rintoul; Ex. 32, Watson; Exp. 55, Sinclair; Ex. 28, Crew and Tatnall). *Comparison of the densities of two liquids which do not mix by the method of balancing columns* (Exp. 36, page 48, Rintoul; Ex. 33, Watson; Sec. 43d, Gregory and Simmons; Ex. 28e, Crew and Tatnall). *To find the density of a liquid which mixes with water by means of U-tube* (Exp. 37, page 49, Rintoul; Ex. 34, Watson; Sec. 43a, b, c, Gregory and Simmons).

Upward pressure is equal to the downward pressure. (Sec. 53, Gregory and Simmons) Buoyancy. Illustration of third law of motion: pressure exerted by the solid on the water equal to the weight of the liquid displaced (Ex. 31, part 2, Crew and Tatnall) Hence devise a method of finding the relative density of cork.

* *Determination of the value of g*. For details of a simple but ingenious device see page 57.—*The School World*, Feb. 1913.

THE PRINCIPLE OF ARCHIMEDES.

Demonstration of the principle using (1) a spring balance, (2) a pair of scales, bucket and cylinder (Sec. 46, Gregory and Simmons: Ex. 22, 23, pages 37, 38, Rintoul; Exp. 42, 43, Sinclair; Ex. 36, Watson; Ex. 31, part 1, Crew and Tatnall). Sec. 46g, Gregory and Simmons describes an important modification of the bucket and cylinder experiment. West's tube. Illustration of the same principle by Descartes with the "Cartesian diver." *To find the volume of any solid that sinks in water* (Exp. 24, page 39, Rintoul). To find the area

of cross section and the diameter of a thin wire. (Exp. 25, page 40, Rintoul). *Density of a solid heavier than water* (Sec. 47a, Gregory and Simmons; Exp. 44, Sinclair; Ex. 37, Watson; Ex. 33, Crew and Tatnall). *Density of a liquid* (Ex. 39, Watson; Ex. 46, Sinclair; Sec. 47b, Gregory and Simmons; Exp. 28; page 42, Rintoul; Ex. 34, Crew and Tatnall).

Solid lighter than water (Exp. 26, page 40, Rintoul; Exp. 45, Sinclair; Ex. 38, Watson; Sec. 47d, e, g, Gregory and Simmons).

* *The density of a solid soluble in water* (Exp. 27, page 41, Rintoul; Sec. 47h, i, Gregory and Simmons).

Flotation: when a body floats in a liquid the weight of the liquid displaced by the body is equal to the weight of the body itself (Exp. 29, page 43, Rintoul; Exp. 43, Sinclair; Sec. 48, Gregory and Simmons).

Construction of a common hydrometer, Exp. 31, page 44, Rintoul; Exp. 49, Sinclair; Sec. 49a, b, Gregory and Simmons). *To find the relative density of a rod of wood by flotation* (Exp. 51, Sinclair). To find the relative density of a block of wood by placing weights on it to sink it completely. *To find the relative density of a liquid by floating a rod in it* (Exp. 52, Sinclair).

Nicholson's hydrometer: Determination of the S. G. of a solid and of a liquid (Exp. 47, 48, Sinclair; Sec. 49c, d, Gregory and Simmons; Ex. 32, Crew and Tatnall). Floating dry docks;

MOLECULAR FORCES IN LIQUIDS.

Shape assumed by free liquid: tendency of a body of liquid freed from gravity and other outside forces to take the form of a perfect sphere. (Ex. 35 a, b, c, Crew and Tatnall). Plato's Experiment: spherical globule of

oil freed from the action of gravity. The surface of a liquid acts as a stretched membrane: contractility of liquid films (Ex. 35d, Crew and Tatnall). Also common class room experiments with a tobacco pipe; a funnel; a loop of fine thread tied to the edge of a wire-ring.

* *Measurement of surface tension*. (Ex. 36, Crew and Tatnall). Ascension and depression of liquids in capillary tubes: connection between height of liquid and diameter of tube. Curve: rectangular hyperbola. Laws of capillary elevation and depression. Causes of curvature of a liquid surface in a capillary tube. Conditions for elevation and depression of a liquid established by the application of the principle of parallelogram of forces assuming that the free surface of a liquid is at right angles to the resultant force. Explanation of ascension and depression in capillary tubes on hydrostatic principles. Capillary phenomena in every day life. Floating of a needle in water: Explanation: Insects walking on water.

Solution, crystallization. Absorption of gases by liquids—soda water; ammonia liquor; fish-life.

Examination of models, diagrams of water-motors; water-wheels; water-turbine; hydraulic elevator; hydraulic ram.

PROBLEMS.

If you were provided with a burette, paraffin oil, and pieces of ice, describe how with these things you would determine the relative density of ice.—When a soap bubble bursts what becomes of the film? Have you ever noticed the spray from the bubble?—Why is a dam across a stream made thicker at the bottom than at the top?—A cylindrical vessel full of water is provided with

two funnels, one half-way down the side and the other at the bottom. Out of which will water flow with the greater velocity? Why?—Why is a water-pipe of a city's water-system more likely to burst in that part of the city where the pipes are lowest?—Why will a shallow dish whose bottom is made of fine-meshed wire cloth float on water?—Why is the water line on a loaded vessel higher for an inland lake than for the ocean?—Why should a life preserver be attached to the body as near to the shoulder as possible?—How would you determine in grams or grains the weight of a cubic centimetre or a cubic inch respectively of an irregular substance supplied?—Why does throwing the hands out of water cause the head of a swimmer to be submerged?—Grease may be removed from a piece of cloth by covering it with blotting paper and passing a flat iron over it. Explain—Why are the foot prints made in newly cultivated soil moist while the loose earth is dry?—Explain why it is necessary to pack the earth around plants and small trees when they are first set out. Later on we loosen the soil about them. Why?—In the manufacture of shot molten lead is poured through a small orifice at the top of a tower. In falling the stream breaks up into drops which solidify before reaching the earth. What gives the spherical form to these masses of lead?—Why is the glass tube of the spirit level slightly curved upwards?—What purpose does the swimming bladder of a fish serve?—A piece of cloth thrown upon water floats at first and afterwards sinks. Why does it not sink at once?—Why does a dead body float?—When a pound of lead and a pound of iron are both weighed in water, the former weighs more than the latter. Why?—Which part of a ship approaching a

coast is first visible and why?—A stone, weighing in air one kilogram, is suspended by a piece of cotton so that it is immersed entirely in water. On attempting to lift the stone out of the water, the cotton breaks when the stone is partly out of water. Why is this? If when the stone is immersed completely the cotton would bear an additional pull equal to the weight of 150 grams, what volume of the stone would be out of the water when the cotton breaks?

LIST OF PRACTICAL EXERCISES.

1. Pressure at a point in a liquid the same in all directions and is dependent on density and depth of a liquid.
- * 2. A liquid exerts pressure at right-angles to the surface on which it is pressing.
- * 3. Relation between pressure of liquid and area of base, shape and volume of containing vessel.
- * 4. To measure the pressure of the gas supplied to the laboratory.
5. Comparison of the densities of two liquids which do not mix by the method of balancing columns.
6. To find the density of a liquid which mixes with water by means of a U-tube.
- * 7. Pressure exerted by the solid on the water equal to the weight of the liquid displaced.
- * 8. Determination of the value of g .
9. Demonstration of the principle of Archimedes.
10. Volume of any solid that sinks in water.
11. Density of a solid that sinks in water.
12. Density of a liquid by the application of the principle of Archimedes.

13. Solid lighter than water: sinker application of Experiment 7.

14. When a body floats in a liquid the weight of the liquid displaced by the body is equal to the weight of the body itself.

15. To find the relative density of a rod of wood by flotation.

16. To find the relative density of a liquid by floating a rod in it.

* 17. Nicholson's hydrometer: Determination of S. G. of a solid and of a liquid.

* 18. Measurement of surface tension.

The properties of liquids may conveniently be finished in about 35 periods of 50' each. 10 double periods being set apart for practical work and 15 single periods for demonstration and questioning.

PROPERTIES OF GASES.

Characteristics of gases: the property of fluidity: Laws common to liquids and gases—force exerted perpendicular to the surface—the force same in all directions; Buoyancy, Baroscope.

Air has weight: why it is impossible to establish the truth with an Indian-Rubber bladder.

* *Flask with stop-cock.* Flask from which air has been expelled by steam arising from water boiled in it. *Density of gases:* Carbonic acid gas by downward displacement and hydrogen by upward displacement (Sinclair, Exp. 62.)

Pressure of the atmosphere—Magdeburg hemispheres. Tin-can experiment, Bladder and glass, Tumbler inverted, Boy's leather sucker, Fountain in vacuo, Pepy's gas holder. "Select two test-tubes, one wider than the other. The smaller one should fit the larger one rather loosely. Fill the larger one with water, insert

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the smaller one and quickly invert them. As the water escapes, the air pressure will force the smaller tube upward into the larger one against gravity and hold it there" (Sec. 54, Gregory and Simmons; Exp. 54, Sinclair.)

Measurement of atmospheric pressure. Height to which a liquid is raised in a tube by the pressure of the atmosphere independent of the diameter of the tube. *Hare's apparatus* (Exp. 58, Sinclair; Ex. 35, Watson, Exp. 38, page 50, Rintoul; Sec. 44, Gregory and Simmons; see Gregory and Hadley page 71). *The Syphon or U-tube barometer*, Sec. 55, 56a, Gregory and Simmons; Exp. 60, Sinclair, Exp. 44, Watson; Exp. 39, page 51, Rintoul) Variation of barometric column with height (Ex. 45, Watson; Sec. 56b, Gregory and Simmons). Pascal's modification of Toricelli's experiment. Toricellian vacuum: three experiments to show that it is a vacuum. * *To show that it is the pressure of the atmosphere that supports the column of mercury* (Ex. 46, Watson; Fig. 255, Narasa's Physics). Explain how the downward pressure of air supports the column of mercury which is also pressing downwards. * *Introduction of air, water, etc. into the barometric column* (Ex. 47, Watson; Sec. 57, Gregory and Simmons). The reading and plotting of barometric heights. (Sec. 58, Gregory and Simmons). Variation of barometric height with altitude. (Sec. 59, Gregory and Simmons). Forecasting the weather: sudden rise, sudden fall, continuous fall. Weather charts: gradient: cyclone. The aneroid barometer. Atmospheric pressure computed.

The Syphon:—Methods of filling a syphon. Suction. Special use of the suction tube. Three cases: when the open end of the outer tube is (1) lower than (2) higher than (3) at the same level as the water in the reservoir.

What happens when a hole is made in the top. Height of the syphon—(Exp. 59, Sinclair; Exp. 43, Watson). Tantalus cup. Syphon of the form shown in Fig. 297, Narasu's Physics.

EXPANSIBILITY AND COMPRESSIBILITY OF GASES.

Elastic force of air. Bladder experiment; Bacchus experiment; wash bottle; Mariotte's bottle. Hero's fountain. Intermittent fountain. The gas-holder. Pressure and elastic force in equilibrium.

Laws of expansion and compression. *Boyle's law*: Relation between pressure and volume of a gas for pressures less than one atmosphere and also for pressures greater than one atmosphere. Form of recording results. Graphical representation of results: rectangular hyperbola. Reduction of volume of a gas to normal pressure. Collection of gases over water in the pneumatic trough. Several forms of apparatus have been devised to prove the truth of the law:—Ex. 48, Watson; Sec. 60, Gregory and Simmons; Exp. 61, second method, Sinclair; Exp. 37, Crew and Tatnall describes another form of the same apparatus suitable for pressure ranging from $\frac{1}{2}$ to 2 atmospheres; Ex. 49, Watson for pressures less than one atmosphere. First method, Exp. 61, Sinclair will, if slightly modified, be found best adapted. In addition to the readings taken when the tube is horizontal and when the air column is at the bottom and at the top of the tube, take several readings in intermediate positions with the tube inclined at various angles, pressure in each case being measured by the vertical height of the thread of mercury. Pages 59 and 79 of February '13, *School World* contain descriptions of some other interesting modifications of the same apparatus.

APPLICATION OF AIR-PRESSURE.

The air-pump: an illustration of the elasticity of air. Limits to the degree of exhaustion. The condensing pump: the cup valve of the Bicycle pump. The part played by the compression pump in practical life: Manufacture of soda water, liquefaction of gases, air-drills, air-brakes, air-motors, pneumatic tubes, bellows.

The common water pump and its limitations, (Ex. 56, Sinclair). The lift pump. The force pump: the elastic force of air. The fire-engine. The diving bell.

PROBLEMS.

How would the height of mercury be changed if a tube of larger cross-sectional area were used?—Is it necessary that the tube of a barometer be uniform?—Show why a change in the area of the mercurial surface in the cistern of a barometer has no effect on the height of the column. Explain why the ink in the reservoir of a pneumatic inkstand can remain at greater height than that outside.—Explain why water will not run in a steady stream from an inverted bottle.—Why is it necessary to make a small vent hole in the upper part of a cask when it is desired to draw off the liquid in a steady stream from a faucet placed near the bottom?—Why is it safe to test an engine boiler by pumping in water rather than air?—When a train is broken in two, the cars are brought quickly to rest. Explain:—Explain the construction and action of a parachute which is used by aeronauts in descending from a balloon. A solid floats partly submerged in a liquid when the vessel which contains it is in the air; if the vessel is placed in a vacuum, will the solid sink, rise, or remain stationary? Why?—Explain the action of the arrange-

ment shown in Fig. 296, Narasu's Physics.—Why does climbing a high mountain often cause pain and bleeding in the ears and nose?—Why do the bubbles of air in water grow bigger as they rise to the surface?—Why does water rise higher within a diving bell as it sinks deeper under water?—Why it is not necessary to hang the barometer outside in the open air?—Why does the mercury in a barometer run up the tube before falling, when it is taken out of the mortar? Is it advantageous to a diamond merchant to sell diamonds at the foot of a mountain or at its top? to use weights of platinum or of rock-crystal?

LIST OF PRACTICAL EXERCISES.

1. To prove that air has weight.
2. Determination of the density of hydrogen and of carbonic acid gas.
- *3. Pressure of the atmosphere.
4. Hare's apparatus.
- *5. The syphon barometer.
- *6. To show that it is the pressure of the atmosphere that supports the column of mercury.
- *7. The effect of introducing air, water, etc. into the column.
8. Boyle's law.
9. The syphon.
10. The water-pump.

The course may be covered in about 25 periods of 50' each, 6 double periods being devoted to practical work and the remaining 13 single periods to questioning and demonstration.

K. S. PARABRAHMAN.

PLACE OF QUANTITATIVE SCIENCE WORK IN A SCHOOL COURSE.

ONE has but to raise the question why the science work in our schools which proved a colossal failure in the pre-school final days, still continues to belie the expectations, and mock the views of the educational experts, to be most painfully impressed with the scant justice done to individual quantitative work by pupils, in spite of the place of honour, given to it in the new scheme. True they have been prompted to suggest this march in the right direction by a careful study of the methods and conditions of science teaching, in the most successful public schools in England, Germany and America. But the effected re-organisation has been incomplete, ill-defined and short-sighted. Here alone should we halt to get a true perspective of the problem that stares us in the face, and threatens to undermine the latent possibilities of ideal quantitative work, if we in our characteristic indifference, still allow the teacher to steer clear of its many difficulties, and have an easy time of it, to the mortification of all concerned.

The fact is, we have been under a misconception for an unduly long time and this was wholly responsible to the qualitative treatment accorded to the science subjects, in the curriculum of our schools. It is idle to contend that, because science began with a bare qualitative observation of phenomena, and the formulation of rough relations between them in those dark ages, it should continue to be the *only* natural and easy aspect of approach for an elementary study of the subject. Science would have progressed absolutely very little and remained an infant all its life,

had not the method of quantitative experimentation, come to its rescue and developed it, in no time, into an inconceivable giant. The qualitative presentation of the subject would, therefore, be unnecessarily detaining the student at the bare outskirts of the grand edifice in the same helpless condition as the original investigators, when under modern methods he could easily be shown in, and given practice in the new method of experimentation that has made our present progress possible, in so short a time. It would sound a revelation to him, when he is made to see that science began to grow and exert its influence over the world, only from the time it came to be studied *quantitatively*, when all observed phenomena were measured and their exact relations to one another, discovered. This aspect of science is surely, therefore, the more natural one, whose universal key would unlock all true scientific lore, great and small, and initiate the student into the most powerful scientific habit of mind,—the habit of closest scrutiny and cautious weighing of evidence to arrive at truth. The potency of quantitative experimentation would be better impressed by the following quotation from Routledge's "Popular History of Science."

"It may be asked how a science concerned with phenomena so important and so constantly under observation, has been so late in its origin as the 18th century. It was not for want of facts. But facts, by themselves, however numerous and however important, do not constitute a science. A science is constituted only when the facts are co-ordinated by laws, and these laws in their highest generality always formulate *quantitative relations* between phenomena. Before

any such relations can be formulated, reliable measures of the phenomena must be obtained, and it has been noticed that the development of every branch of science has always kept pace with the means of obtaining exactness in the measurements of its fundamental phenomena. The science we now enter upon had waited for ages for its instrument of measure—the thermometer."

In another place he says—"Black's experiment on Magnesia is notable, because it shows that systematic appeal to the balance which constitutes the law of modern Chemistry. Here in the middle of the eighteenth century only do we find chemistry seeking a basis for its principles in *quantitative relations*. This was the first step of the great transformation of the science from its elementary condition of a mass of facts, connected only by vague theories, into that state in which its general principles rest on the incontrovertible basis of definite quantitative relations."

From a perusal of "the report on the Science teaching in Public Schools, represented on the Association of Public School Science Masters," it would be evident that the public schools in England were fully convinced of the necessity for the introduction of quantitative practical work by pupils, only thirty years ago, and they have in a short time been able, with proper organisation, to mark the improved discipline that characterises the new work. Reference is made to Professor Worthington's work in the following unmistakable terms: "It was Prof. Worthington who first showed that it was possible to select experiments and to employ simple inexpensive apparatus, capable of yielding quantitative results of

accuracy, sufficient to enable sound deductions to be drawn, and that, without taxing too much the patience or intelligence of boys between 14 and 16 years of age. No doubt the standard of accuracy at this age is low, but a pupil is generally stimulated and encouraged by feeling that a result sufficiently accurate for his present purpose is attainable, if pains be taken. Improvement in accuracy, methods and apparatus, then follow as a natural growth." Of his course at Clifton, Prof. Worthington says: "It is undertaken like all the scientific teaching, not with a view of training up physicists, but with the object of evoking in the boys a genuine and generous interest in natural phenomena, and of training them to habits of patient and conscientious study. The serious interest thus aroused in a large number is the best guarantee of future excellence in the few who may afterwards become specialists."

Fortunately for us, we can benefit by the experience of such public schools in England, and none the less, by the stirring example of the pioneers of quantitative work in those schools. They have carefully thought out the problems, suited to this new method of presenting the subject, and revised them wherever necessary, in the course of their actual working for years together, and presented the same in book-form for the scrutiny of others. Numberless books are being published on the same lines, displaying the desirability of adaptation to varying needs, by enthusiastic experts on the subject. What we have to see at this moment, is the zeal and earnestness with which the men in charge of Science work have attacked the question, with a view to collect convincing evidence in its favour. How many are the

Science teachers amongst us that have really caught this contagion, and begun to make a systematic record of their adaptations to suit the conditions obtaining in our schools?

It is now nearly *four* years since the School Final Scheme came into force, and the fact has to be admitted, that very little has actually been done, by way of improving the methods of science teaching. Of course, the syllabus has marked the dawn of the new era in science teaching. No one is inclined to push it forward. Every one waits for greater pressure from without, before taking the decisive step. Hence, here we see a school, ill-equipped for the new method that is proposed, and there, a science teacher, hopelessly out of date to guide the same, or here is a school still going in for rubbish to fill its cupboards, and there, one closing its Science branch altogether, being unduly frightened by the fanciful estimates of its cost. It is within the power of the controlling authorities to steer clear of these unforeseen difficulties, if they will. Much can be effected by a retouching of the syllabus so as to define the minimum of quantitative work in Physics and Chemistry that should be attempted by every school. It is better to detail a fairly large number of suitable problems, and insist on 75 per cent. of them at least, being taken up, to suit the varying conditions of our schools. This may be followed by a duly considered scheme of qualitative experiments and historical references, absolutely necessary for the efficient conduct of quantitative work, and to save the school authorities from unnecessary drain, a price list of the most essential and least costly fittings, apparatus, and books has also to be appended. Let the Inspectors at

the time of inspection, and the colleges at the time of entrance, demand of every pupil his laboratory note-book, and do all they can to make it leave nothing to be desired.

There is yet one more point to be pushed home which may not sound equally pleasant to all. With due deference to the teaching world, it has to be remarked that the science teachers, as a class, have much to improve, before they show anything like the true "spirit of scientific research," essential for the successful carrying out of the new scheme. Things are not likely to improve, if nothing is done to shake off their lethargy and seeming indifference to the sober responsibilities of the new situation. They should show sufficient extra-training by way of complete historical information on their subject, and systematic practical work covering the full course of the High School and Intermediate classes. I mean they should be required to keep a suitable synopsis of their historical reading and a neat record of their experimental *quantitative* work, with specific directions for the conduct of the same. Provided the school authorities and the Inspectors would always insist on such a special qualification in every teacher of science, and help him with extra leisure for one year, he could, with advantage to himself and all concerned, put forth the necessary zeal to reach an unquestionable level of efficiency, and keep himself beyond reproach for ever. One thing has, however, to be agreed upon, that science work shall be the only sphere of these teachers, to enable them to be ever busy with the question, how best to present their problems to the pupils, and provide for various methods of attacking the same, with simple pieces of apparatus, devised by their own ingenuity.

Is it too much to expect of our teachers, if then alone the results of our science work in schools can hope to bear any reasonable comparison with those already ahead of us? Let men, in present charge of science work, and those who control them, just think for a moment, how far these suggestions are practical and desirable, and they shall only be too ready to make an honest attempt to further "the scientific habit of mind" in our helpless young men.

P. A. SANKARANARAYANA IYER.

EDUCATION IN THE PUNJAB.

IT cannot be denied by any one that during the last decade the Punjab has made an astonishing progress in education. In the nineties of the nineteenth century, the people of the province looked upon education as an ornament which the few could and should wear. But with the beginning of the present century, men began to change their views and have gone so far as to think that a father who does not educate his children, falls short of his duty as a father. Nay, men have become so fond of education that they begin to question the wisdom and integrity of a father who does not send his children to school. They have, very recently come to realize the fact that education is necessary for every person as a matter of course; and that without it man is no better than brutes.

It is incontestably true that, in the beginning of the second half of the last century, the number of educated persons in this province, could be counted at fingers. The reason is not far to seek. *The times, previous to the establishment of the British Empire, were very turbulent.* People were invariably engaged in warfare. There was a sort of military edu-

cation; if there was any kind of education at all. This, however, can never be ignored that there were men of erudition in those strenuous times; but their number was limited. Emperor Akbar had, by holding weekly debating meetings in his hall, gone a great way in enlightening the minds of his subjects. But his successors, engaged as they were in constant wars, could afford little time to bestow their thoughts upon matters educational. The years consequent upon the death of Emperor Aurangzeb were years of an unsettled state, and consequently the people could hardly think of education. Hence it was with the establishment of the British rule in India that education began to spread in this province. Thus the credit of the furtherance of education in the Punjab is to the British Government, not only because it restored order out of chaos and thus paved the way for its spread, the people having more time to think of it (their persons and properties being secure against all injuries), but because the Government, realizing the duty of a just ruler to educate the subject nations, took great pains to see it done.

As pointed above, the people did not like to send their children to school; for they were labouring under a wrong belief that their children would become Christians if they were sent to a school opened by the Government. Our benign Government did not employ coercive measures. The officers concerned were ordered to bring the people home the advantages that would accrue to their children, if they were educated. Persuasion was not the only tool to work with upon the prejudiced minds of the people. The Government encouraged education in schools by annual prize-distributions. Those who displayed marked ability in reading, were given scholarships

and stipends to give them an impulse to study further. Thus our kind Government continued to encourage education by giving scholarships, stipends, prizes and medals to the bright scholars; and it is a matter of great joy that medals, scholarships, etc., are still given to the students who distinguish themselves at the various examinations of the University; though the times have come that the parents, both rich and poor, send their children to school, realizing the fact that of all investments, that in the education of children is the best.

To clear the mist in which my readers shall be left if I should finish the subject here, I think it proper to give my readers a knowledge of the things which go the length of declaring that education has actually made rapid strides in the Punjab during the last decade—nay during the last 15 years.

The best test to know the truth is to see whether the number of educated persons has or has not increased. I think the best report on the subject is the *Census of 1911*, which shows a marked increase in the number of educated persons. Those who are not satisfied with this will please have a look at the list of recognized High and Middle schools of the province, kept in the office of the Director of Public Instruction. A glance will put them in mind of the marvellous increase. They will mark to their great astonishment, that there have been opened many Secondary schools, in different parts of the province. There are innumerable Primary schools, started by the Government, District and Municipal Boards, and private bodies. To speak correctly there is hardly a town in this province which does not enjoy the advantages of a Primary school. There are Middle and Primary schools under private management that are not yet placed

on the list of recognized schools and they, I conceive, do not fall short of the number of recognized High schools. If the readers would care to know the reason of their coming into existence, they will at once find that the parents have expressed so intense a desire for education as to call forth their beings. Thus it is manifest that the number of educated persons is ever on the increase.

In the above few lines I have endeavoured to give my readers an idea of the schools, Government, Board and private, for boys. It will not be superfluous to remark that female education is on its forward move, side by side with that of the stronger sex. There are innumerable schools for girls. The most important is the *Kanya Maha Vidyalaya*, Jullundur City. This institution is under private management and turns out every year best scholars, who, when leaving their *Alma Mater*, make a solemn promise to uphold the cause of female education and thus guarantee that the future generation would consist of more educated ladies.

The readers, I conceive, will be delighted to read that the Inspecting authorities take great pains to see that in these schools, education is imparted for education's sake. What can be more advantageous than this that the Inspectors set models in the method of teaching, to enable the teachers to impart sound education to the pupils. They make useful suggestions for the guidance of the teachers. Thus while attempts are being made to turn out best scholars, the physical and moral side of the pupils is not ignored. The Inspectors especially and the Headmasters generally take great interest in the well-being of the taught. I have no hesitation in saying that Mr. H. G. Wyatt, M.A., Inspector

of Schools, Jullundur Division, takes great interest in these things. Whenever he pays a visit to a school, his first thought is turned to the site, i.e., whether the school is situated in a healthy locality or not. He, fortunately for the students, recommends buildings outside the town. His next care is to see that the desks are placed in such an order that the scholars receive an adequate quantity of light. He is equally particular about the development of the moral side of the pupils. In one of his recent circulars he has enjoined the teachers to be very careful about the moral development of the taught. The teachers are desired to watch the conduct of the school children after the school time. Thus we see that the scholars receive sound education, i.e., an education which involves the exercise and development of all the faculties. To provide competent teachers for the schools in the province, the Government has, at an immense cost, maintained a Training College at the capital. There are several other Industrial and Technical institutions in the province. The existence of these institutions is a sufficient proof to show that the number of educated persons is ever increasing.

Another source of information on the subject is the University record. In the year 1907, there were not more than 325 students who sat in the Examination for their Degree of Bachelor of Arts. In 1913, the number exceeded 500. Leaving those who stop their studies after their Matriculation and they are the men who form a great bulk of the educated community, we perceive a splendid increase in the number of highly educated men.

OPHELIA AS A TRAGIC HEROINE.

Another thing which throws light on the subject is the multiplicity of the printing-houses. I can say with an approach to certainty that there was a time (not long ago) when there were not more than five or six printing works in so large a city as Lahore. But the number has very recently so much increased that there are now not less than seventy-five printing-houses in that town. I was told by a friend of mine that every street of Lahore had a printing press. I have, however, made an allowance for his exaggeration in quoting the above number. Their existence manifests their necessity and shows that there has arisen, in the province, a great reading public. The number of newspapers has equally swollen. It is conceived that every large town prints two or more papers. The educated read these papers to the uneducated and thus illumine their minds.

When summed up, the above facts lead me into the belief that the day is not far off when this province will claim equality with other provinces of India and how I wish it to be so, I cannot tell.

In the end I acknowledge my debt of gratitude to our kind and sympathetic Government, but for whose incessant and indefatigable labours we should have still remained in the darkness. In this connection, the work of the Religious bodies (the Hindus, the Mohammadaus, the Christians, etc.) is also praiseworthy; for most of the schools we see running were opened by them.

KESHAB CHANDAR HANDA.

PERHAPS the most neglected and despised of Shakespeare's tragic heroines is Ophelia. A few celebrated critics like Goethe and Coleridge have spoken in fervent praise of her, but the general and popular opinion has not been very favourable. The testimony of Goethe may serve to point out that Shakespeare's treatment of Ophelia has been so peculiar and in a sense so meagre, that a certain measure of sympathetic imagination seems to be necessary to do justice to her. It is not that she must live only by the favourable prejudice of critics but that the interpretation of her character is so difficult and beset with such confounding incidents, that the unthinking critic will rush to conclusions, that are neither warranted by a careful examination of the play, nor such as will do credit to Shakespeare's creation of a *tragic heroine* in "Hamlet".

The personality of Hamlet has so dominated the interest of the play that the love-story in it has always been obscured. Hamlet has been so loved for his thoughts that his emotions have never been adequately scrutinised. An attempt to analyse this little regarded aspect of the play will be avoiding the beaten path of "Hamlet" criticism in some measure, and may be found to lead to interesting results. The centre of interest in this essay will be Ophelia, and Hamlet will be called in for criticism only in so far as he affects her.

While all the other tragic heroines of Shakespeare have received such large praise, it is perhaps not wise that Ophelia alone should be so summarily dismissed, as she has been, by most critics. Her position in the

play singles her out as the only possible heroine in "Hamlet" and it will be a useful discussion to try to determine at some length how far she fulfils this distinction. It may be mentioned that Ophelia is brought to our attention directly or indirectly throughout the length of the play, from the third scene of the first Act to the first scene of the fifth Act. She makes her appearance, in all, about eight scenes. Ophelia's madness may be taken as still another fact to support her importance to the play. We must remember that Shakespeare was never prodigal of distributing madness among his characters. Only first class characters, so to say, are allowed to get mad, generally with a view to intensify the tragic effect of his plays.

My business here will be to try to build up on the authority of the various scenes in the play concerned, a more or less connected account of the relations of Ophelia, the daughter of the Lord Chamberlain of the Royal Court of Denmark with Hamlet, Prince and heir-apparent to the throne. The force that first brought together the Prince and Ophelia must have been a common poetic temperament with a fine capacity to reciprocate pure emotion. That Prince Hamlet was poetic, every reader of the play will agree to. His fervent idealisms of the world with an imaginative appreciation of its beauties, and his genuine love for humanity before terrible events turned him a cynic, may be taken as expressive of the *poetry* of his nature. But I will here draw attention only to the love-letter which he wrote to Ophelia. It may seem affected but its poetry and depth of emotion are undoubted. The affectation is merely the effect of the poetic standard of a past age. The letter is addressed "to the

celestial, and my soul's idol, the most beautified Ophelia" and it ends with a fervent declaration: "O dear Ophelia, I am ill at these numbers; I have not art to reckon my groans; but that I love thee best, O most best, believe it, Adieu. Thine evermore, most dear lady, whilst this machine is to him, Hamlet." This poetic temperament of Hamlet is matched only by Ophelia's supreme faculty in this respect throughout the play. With her the poetry is in her innocence, her hopeful vision of the world, her scorn for the wordly strifes, and the extreme delicacy of her thoughts. While Polonius on the one hand, with his utterly prosaic head, ridicules Hamlet's phrases and declares them "vile," an exactly similar ridicule is shown towards Ophelia when she speaks in poetic and feeling terms of Hamlet's love to her.

Ophelia says: He hath my lord, of late made many tenders of his affection to me.

Polonius replies: Affection! pooh! you speak like a green girl. . .

Ophelia speaks again: "My lord, he hath importuned me with love in honourable fashion." But Polonius replies: Ay, fashion you may call it; go to, go to.

Ophelia continues:

And hath given countenance to his speech, my lord

With almost all the holy vows of heaven.

But to prosaic old Polonius the vows are all but "springes to catch woodcocks." To the poetry of Ophelia's feelings and expressions, all her speeches bear easy testimony. Prejudiced critics sometimes put down her speeches as either got up or merely conventional. It is easy to foster such accusations when we grant to ourselves that the person uttering the speeches is silly and void of any

depth of understanding. But I will reserve a discussion of this subject to a later part. Returning to the bond of attachment between Hamlet and Ophelia, as lying in a common poetic temperament, it may be pointed out that this bond of poetry was calculated to be of singular appeal at the Danish Court of the days of the good King Hamlet. With all due deference to our present Queen-Mother who hails from Denmark we may note that the Danish people of Hamlet's time given to riotous drinking were not of a particularly refined type of men. And as to poetic feeling even the highest in the Court do not seem to have been capable of it in any large measure. The good Horatio was a man of sound parts but we may acquit him of any abandonment to poetic feeling. King Claudius was a scheming wicked person. Queen Gertrude led her life unknowingly, taking her fill of the good things of the world with never a scruple for the higher ideals of life. Parasites that knew only how to get on in life like Rosencrantz and Guildenstern swarmed around the Court. Amidst such surroundings then, the common poetic faculties of Hamlet and Ophelia must have brought about a singularly deep attachment between them. But the common practical people could not have understood this mutual sympathy. An heir-apparent to the throne would never do well to love a Chamberlain's daughter. Polonius early enough realised the undesirability of the connection and he never for a moment could admit that Hamlet was sincere in his love-suit. And yet amidst this unknowing and unsympathetic community of people, Ophelia nourished within herself a deep passion for the dear companionable soul of Hamlet. We are led to believe in this ardent attachment on Ophelia's part from the fact

that Laertes takes occasion as a piece of parting advice to warn his sister against believing in Hamlet's love-suit. Laertes must have often times observed his sister distracted at home musing in her love, and so he now wishes to speak on the subject as he is leaving home.

It is important that we should take note of this deep passion on the part of Ophelia for on this presumption will depend the interpretation of later scenes. The analysis of a character in a drama is a process of very difficult reasoning involving all kinds of inferences both inductive and deductive. Many facts that are necessary for us in determining a character have to be indirectly inferred and we should always beware of making a false beginning, while we are trying to elucidate the growth of a character. If we grant then that Ophelia cherished at one time a most ardent love for Hamlet we will look upon her madness later as the inevitable tragic reaction from a period of wonderful restraint of the most powerful and conflicting passions within her. Ophelia went mad not only because her father was killed but even more because she had sustained previous to it her life-disappointment from Hamlet. The scene which I have already quoted from, where Ophelia assures her father about the honourable protestations of love by Hamlet, also testifies to the deep attachment on Ophelia's part. As Mrs. Jameson says, "only Ophelia herself is unaware that while she is admitting the extent of Hamlet's courtship, she is also betraying how deep is the impression it has made, how entire the love with which it is returned." Ophelia is placed in circumstances not different from those that tormented Scott's heroine Lucy Ashton to the extent of turning her into

a fatal lunacy. Ophelia like Lucy is leading two lives. Outwardly she must conform to the practical mandates of her father. But inwardly she cherished a romantic tale of love. *But this romantic tale of love was shattered to nothing before it could assert itself against the other prosaic forces of the world.* I mean that Hamlet's character had unfortunately changed in such a manner as to disappoint Ophelia's hopes utterly. The love-letter of Hamlet which I referred to in the beginning of this paper, it seems to me, must have been written before the marriage and coming to the throne, of Claudius. For, the pure adoration for Ophelia, contained in this letter could not be expected of Hamlet, after he had seen his mother marry his uncle. His morbid and soured view of life set in even before he saw the ghost. His pseudo-philosophy and unwarranted generalisations begin to be expressed even in the second scene of the play. Hamlet exclaims, "Frailty, thy name is woman!" The great weakness in the character of Hamlet was the change in him to a fatally morbid view of life so soon as he beheld a shocking and sacrilegious act perpetrated in the throne of Denmark. The sight of a sensuous mother turns him into a most severe anti-feminist, more absolute in his position than even the Swedish dramatist Strindberg ever was during his life. It must therefore be inferred that the first to break their love-attachment was Hamlet. He grew cynical early in the play and the absorbing reflection on his mother's wickedness illogically but naturally enough, killed his sweetness towards Ophelia. *Ophelia must have perceived this bitter cynicism and so got doubly disappointed.* Her father's caution seemed only too well given and she did "repel Hamlet's letters and deny his access to her."

Mrs. Jameson seems to think that Ophelia's love of Hamlet proceeded out of an ignorance, by which, instead of comprehending all the peculiarities of Hamlet, she merely worshipped him as a great prince that all people looked up to. Mrs. Jameson's view proceeds from the false supposition that Hamlet, as he is, and as he appears to us in the play, is the object of Ophelia's adoration. It has already been indicated that the period of complete attachment on both sides pertained only to a past time, when Hamlet had not yet witnessed the shocking debasement of his mother's character. The morbid change in Hamlet which renders him an unloveable person is however well brought out in Mrs. Jameson's description. She writes: "Let us for a moment imagine any one of Shakespeare's most beautiful and striking female characters in immediate connection with Hamlet. The gentle Desdemona would never have despatched her household cares in haste, to listen to his philosophical speculations, his dark conflicts with his own spirit. Such a woman as Portia would have studied him; Juliet would have pitied him; Rosalind would have turned him over with a smile to the melancholy Jaques; Beatrice would have laughed at him outright; Isabel would have reasoned with him; Miranda could but have wondered at him," Mrs. Jameson adds that Ophelia loves him. Let us remember that she has ceased to love him though retaining an intense sympathy for him throughout the play.

Taking up the thread of our narrative we may notice that Hamlet's violent emotions received meanwhile an unmistakable turn by the appearance of the ghost. He decides upon an antic disposition to delude the people around. The dis-

appointment in love which he did not know was due to his own morbid change in character, serves for him now as the plausible cause of his lunacy in the eyes of the people. In the savagery of his blind anti-feminism he acts a distracted scene before gentle Ophelia. Professor Bradley ably defends Ophelia's expression of horror after the spectacle. He asks "which of her censors would be wholly unmoved if his room were invaded by a lunatic? She is frightened then; frightened, if you will, like a child. Yes, but, observe, her one idea is to help Hamlet. She goes therefore at once to her father. To whom else should she go?" In Act II, Sc. II again Hamlet continues his antic disposition in his pitiless discourse with Polonius, harping frequently on his daughter. The egoism and bitterness which Hamlet practises remorselessly towards every one were qualities, quite opposed to the gentle nature of Ophelia and easily account for the cleavage between their lives. To Ophelia, Hamlet rightly enough, seemed a shattered lunatic and while she could not sympathise with him directly was yet deeply touched for the ruin of his former soul.

We may now fittingly consider a scene, almost the central one in the play and quite important to the subject of this paper. I refer to the first scene of the third Act. Adverse critics of Ophelia dwell much on how Ophelia allowed herself to be used as a decoy to hook Hamlet's thoughts. It seems to me that Ophelia can be honourably acquitted in this matter for two very sound reasons. Ophelia consented to be the "decoy" if you please, because she believed herself to be doing good for Hamlet. Next, her own private inclinations might influence her, not unnaturally

to accept this meeting with Hamlet. Hamlet had once been to her the object of her entire devotion but he had later drifted apart into bitterness and indifference. May it not be that Ophelia would ardently wish to meet the man who, though now distracted, was yet the ideal of her dreams in the past. She could meet him now with perfect equanimity too, for she had repelled him already, and all formal relations between the lovers had ended in the public eye. Would she not hope against hope that Hamlet might yet be moved towards her, if she once again spoke to him touchingly of the sweet past that was full of golden dreams. We can read this hope along with the bitterness, when Ophelia is re-delivering to Hamlet the remembrances once bestowed upon her.

Ophelia says: My lord, I have remembrances of yours,

That I have longed long to re-deliver;

I pray you now, receive them.

Hamlet whether perversely or madly denies his having ever given her anything at all. Ophelia replies with the natural delicacy of her thought and speech:

My honour'd lord, you know right well you did;
And with them, words of so sweet breath
composed

As made the things more rich; their perfume
lost,

Take these again; for to the noble mind

Rich gifts wax poor when givers prove unkind.

When Hamlet raves further on about the incompatibility of honesty and beauty, Ophelia's angelic simplicity interrogates him:

"Could beauty, my lord, have better
commerce than with honesty?"

Further on again occurs Hamlet's unparalleled rudeness towards Ophelia and woman in general. He bids her, as everybody

need not prevent us from discovering in Ophelia a virtue in advance of her age.

Lastly we may proceed to discuss the importance of the Ophelia story to the Hamlet tragedy as a whole. We have seen how a flaw in the character of Hamlet has led to the tragic result of Ophelia's life. We may note without being accused of far-fetched and ingenious suggestion that this flaw in Hamlet's character contributed to his own death. The bitter pathos of Ophelia's madness and subsequent death spurred Laertes to revenge and Hamlet died, poisoned by his thrust. The view that we have taken of Hamlet's relations to Ophelia will seem to fit in admirably with the ideal of a tragic hero, as expounded by the father of literary criticism. It has been said that Aristotle's ideal tragic hero is "a man who morally stands midway between the two extremes. He is not eminently good or just though he leans to the side of goodness. He is involved in misfortune not however as the result of deliberate vice but through some great flaw of character or fatal error in conduct." It may be emphasised that Hamlet's relation to Ophelia is only one of fatal error in conduct. We that have seen the ghost and felt with Hamlet the effect of the ghost's terrible disclosures, can readily sympathise with the restlessness of Hamlet. We know that he was throughout actuated only by nearly the noblest of passions and the fierceness of his expressions bore no real sting in it. And yet we may put it down as the great flaw in his character that he forgot himself in his overwhelming and righteous passion and showed an undeserved harshness to the innocent people around him, who were not in a position to divine his deep-seated motives. The importance of Ophelia then to the tragedy

as a whole is that misfortune to Hamlet works through her. But more than this her own contribution to the tragic effect of the play is considerable, and in a sense serves as a fitting complement to Hamlet's story. While Hamlet died, taking at last his bitter arms against outrageous fortune, Ophelia's angelic simplicity staggers helplessly at the outrage, and the ruin of her reason and her life is worked up with unparalleled pathos. If, according to Aristotle, tragedy works itself through pity and fear, Shakespeare has fulfilled himself with the most consummate perfection through Hamlet on the one hand, and Ophelia on the other.

P. R. KRISHNASWAMI.

SPEECH DELIVERED BY MR. G. H. B. JACKSON, M.A., I.C.S.*

MR. PRINCIPAL, LADIES AND GENTLEMEN:

IT is a great pleasure to Mrs. Jackson and myself to be present here this evening, and I am always interested to hear the reports which are read on these occasions and to see the whole school assembled together, not only the "noblest boy" to whom you have awarded a prize but all the noble boys. It is a great pleasure to see them here.

Now we have heard the reports which have been read by our Principal and Secretary and in the few remarks which I shall be making to-night I am afraid that I must address myself specially to the bigger boys amongst you, for I know that those small boys who have been sitting in front of me through this evening are too far away to hear and follow my English.

As we listened to the reports which have been read by our Principal and Secretary,

* Collector of Tinnevely at the Prize-distribution of the Hindu College, Tinnevely, recently held.

what is it that strikes us, what is the note that runs through them all. You hear of all the endeavours which have been made by your masters and those who are interested in this school and managing the scientific equipment of this school; you have heard of all the subscriptions which have been given to the school by private persons; and of the Government grants—and a Government grant is not some sum of money taken out of some illimitable treasure and thrown carelessly to this school; a Government grant is that portion of the wealth of the country which is allotted to this school, wealth created by the agriculturists of this country, the poor Pariahs and Pallars who are working in fields this moment at the end of a long day's work. And lastly there are the fees; and I know, as well as you do, that, the fees of a school like this represent great sacrifice on the part of your parents. So that the whole story which has been read to us to-day is a story from start to finish of sacrifices on your behalf; and the lesson which I wish to bring before you this evening is that when you realise these sacrifices, you should make up your minds to be grateful. I know it is inevitable—it is the same in all the countries and it is the same in all ages, that as progress advances, as education extends, the younger generation is inclined to be somewhat impatient of the old generation. Some of you—bigger boys—that are leaving the school will begin to be impatient of your parents. You have a broad outlook and they, you may think, are narrow and unsympathetic with you. But if you are inclined to grumble at them, remember they made that sacrifice to send you to school and to pay for the education of which you had your share. If you realise this principle of gratitude, what is the

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resolution that you will make? It is that when your time comes to be able to give back, "Give unto others as you have received," then make the resolution that you will remember your old school and when you have money bestow it on your old school. Probably every boy of this 950 hopes that in some day owing to his own force of will and brain he may be a rich man. Let him hope so and let him remember his old school.

It is tremendously interesting to look round on boys, a multitude of boys like this, and to speculate on their future careers. What is going to come out of all this education you have received? That is the question which you ought to be asking yourselves. Now, there is the date your school was established, 1861. If you take a generation as 30 years, two generations will soon have passed away since the school was established, two generations of the sort of education which you are receiving now. Are you yourselves satisfied with the results? You ought not to be. Do not imagine that I am standing up here to blame you. I understand your difficulties perfectly well. I think I realise to some extent the enormous difficulties of having an education given to you in a foreign language. But you are the second generation who had been educated in that way. What ought your ambitions to be? Not that your school course is only something which is good enough to earn your bread and after that can be despised. If you have any feeling for your country, you cannot despise your education. You must go on with your ambitions. Now, are you satisfied with it, with its present condition? You have a school library I have no doubt, and probably, you have the Encyclopædia Britannica. I think

what your ambitions should be, those of a good many among you,—the ambition should be one day to see an *Encyclopædia Indica*, a really good first class scientific work of European reputation dealing with all the phenomena of India, not something which has a title page and nothing inside, but a scholarly work; and India must produce something of that kind. Every boy who has brains should devote himself to one of the very many subjects of this education which has been given in this College. If I was addressing 950 boys of some other country, not only England but in any other country in Europe, even of Japan, I know perfectly well that if I asked questions, say about birds, the master could pick out five or six boys who were studying for themselves the habits of birds. If I mentioned botany, the subject of flowers, there would other boys come up, and with regard to other phenomena of the country again there would be boys who enjoyed to study them. Why is not the same sort of boys found here? I do not blame you, but I suggest it. And if you set before yourself an ambition to be real scholars—real masters of some subjects, you will have cause to be proud of yourselves, and the school to which you owe the foundation of your knowledge.

**THE HON. MR. P. S. SIVASWAMI
AIYER AT THE PACHAIYAPPA'S
COLLEGE.***

He said that when he was first asked by the President of the Board of Trustees to take the chair on that occasion, he had some very considerable hesitation in deciding what to

* Presidential Address delivered by the Hon. Mr. P. S. Sivaswami Aiyer, C.S.I., C.I.E., at the Seventy-first anniversary of the Pachaiyappa's College.

do. For he remembered the distinguished men who in the past had been called upon to take the chair on such occasions, and he also remembered the fact that he could lay no such claim as they upon the public attention. Therefore, he considered twice whether he should accept the invitation. On considering the matter it struck him by a sort of intuition, that that institution had a sort of prescriptive claim upon the Advocate-General to be present. Therefore he concluded that the reason he was asked to fill that place was that he had once held that particular office. He also remembered that once before, the Trustees had asserted their claims on the services of the Advocate-General, when they asked him to play a small part, when he was holding that high office in the revision of the scheme of the management of the Charities. His part was, however, only very slight, but the claim which they made was one that he could not shirk. He had therefore to make up his mind to accept the invitation made by the Trustees. It struck him also that they had asked the present Advocate-General to deliver the present commemoration address, and it was the object of the Trustees to take advantage of an occasion like that to impress upon the holder of that office, which he once had the honour of holding and which was now being held by the distinguished gentleman who had delivered the commemoration address.

He would first address his congratulations to the students who had carried off the prizes that day and express the hope that those who have not carried off prizes, might succeed on a future occasion. They would also allow him on their behalf to express their congratulations to the Principal and his staff on the continued efficiency of the school and the college, and to the Trustees on the interest they had taken in the management and the efforts they were making for their improvement in all directions. It was a matter for satisfaction that the Trustees realised the need for improvement, of making provision for a hostel,

and had taken the necessary steps to supply that need. Thanks to the liberality of private donors, and thanks also to the liberal grant received from the Government they were now in a fair way to see the realisation of their scheme for a hostel.

SUSPICION AND DISTRUSTS.

He had found that upon some previous occasions, not very far back, prominence had been given at those meetings to some amount of suspicion and distrust with regard to the attitude of the Government in reference to higher education. He did not know whether that feeling had any good or adequate foundation. It was possible that criticism of defects of secondary college education systems, or that insistence upon the claims of certain branches of education, like primary education, to which sufficient attention might not have been paid, might have engendered those feelings of suspicion and distrust. But he was sure that the events of the last few years, and the generosity with which money had been freely given by the Government during these years, must have allayed any such feelings of suspicion and distrust. Both the Government of India and the Provincial Government had now given clear proofs of their desire to advance all organised education, and not merely to promote one branch of education to the exclusion or detriment of another. That forward policy was due in no small measure to the creation of a separate ministry for education and to the choice of an enlightened Minister like Sir Harcourt Butler, for both of which they were indebted to that great statesman to whom they owed their constitutional rights and whose loss they deplored.

GOVERNMENT AID.

He could also tell them that His Excellency Lord Pentland had the welfare of all branches of education at heart, that there was no subject in which His Excellency took a keener interest than the advancement of education; that he was fully alive to the need for improving secondary educa-

tion, if for nothing else, at least for the purpose of providing an adequate supply of teachers to carry on education in the land. In all that concerns the welfare of the school population, whether it be in the provision of hostels or equipment of laboratories or the provision of higher faculties, or the provision of proper playgrounds in schools. His Excellency was keenly interested, and he was sure they could look forward to a great advance in all the various directions of educational expansion. They had only to pray that the financial prosperity which had enabled the Government of India to put forth money so generously for the advancement of education, would continue in the years to come and they have no doubt that they would participate in the benefit of the Government of India.

ENLARGING COLLEGE IDEALS.

It had been whispered in his ear that the Trustees were not content with providing a hostel for the students of the college, but that they set before themselves a much higher ideal, that of providing a residential college. If adequate financial support was forthcoming the Trustees would be able to realise their wishes, and to provide residential quarters not merely for the students, but also for the members of the staff in the premises of the college. It might have to be carried out by transferring the college from its present local habitation, a habitation which had become so dear to the memory of the citizens of Madras, but the immense advantage to be gained by the change of site, would, he was sure, override in the minds of them all any sentimental considerations attaching to the present habitation. If the Trustees were able to accomplish their object, and that consummation was to be devoutly wished for, that college would lead the way as the first college in the Presidency to have attained that ideal. To carry out any such object meant, of course, large financial support. The response which the Trustees had received to the previous appeals for pecuniary aid, while

it had not been discouraging, was not perhaps of so encouraging a character as to cause them to undertake the scheme with a light heart. They had heard recently of munificent benefactions and endowments for the Universities and Colleges of the sister Presidencies of Bombay and Bengal. This Presidency could not compare in wealth with Bombay or Bengal. They were not possessed of so many millionaires as many Rajas and Zemindars as the sister Presidencies, but they could not ignore the fact that there were many Zemindars, merchant princes, and successful men of business in the Presidency, though not in the numbers that were to be found in Bombay or Bengal. There was one community, for instance, which had been carrying on the business of banking hereditarily which, however, had not yet let its charity run in the direction of endowing educational institutions. He need hardly say that he referred to the Nattukottai Chetties. He was glad to say, however, that the leavening process had reached even that community, and they had now members of that community crossing the seas and going to foreign countries, there acquiring new ideals and ways. It was not too much to hope; therefore that the number of individual donors capable of making donations for educational objects would be as large as elsewhere, and that the existing feeling of charity might induce many of their people to come forward and support that institute.

AN ADVANTAGE.

The object of the commemoration of Founder's Day was to impress upon the pupils the benefits to be derived from the life and example of the founder, and those periodical celebrations would fail of their effect if they did not touch a responsive chord in the hearts of charitably-disposed gentlemen. There was one advantage that was offered by that institution which might assist in drawing the notice of people who let their charity take the shape of endowments. One of the great practical objections in front of any-

one who wanted to make a charitable bequest was the difficulty of providing satisfactory machinery for its administration. He might tell them that the difficulty of finding suitable machinery for the administration of charities so impressed the mind of an eminent lawyer, lately deceased, that he thought it was a great mistake to leave any property testamentary for charitable purposes and he also advised those to whom he bequeathed his property, that they should rather do such charity as they could during their lifetime, and that they should not expect any form of posthumous charity to be successfully managed. He (the speaker) did not agree in that pessimistic view of the management of charities, for unless the purpose of a charitable endowment be exhausted in the lifetime of the donor, then they must necessarily make necessary arrangements for successful administration. In that school they had machinery ready to hand. An excellent Board of Trustees, in whom the public could place every confidence, and who would only be too glad to take the charge of any endowments that might be made for the advancement of education, more especially in connection with that college itself.

A NATIONAL CHARACTER.

It had often been said and, said truly, that that college might claim a national character. There was only one other Hindu college in the Presidency and that college had entwined itself in the affections of the people. There was no other college founded by private agency that occupied the position of advantage that that college did, and it might well claim to be the premier Hindu college in the Presidency. It might, therefore, be permissible for those who were interested in that college to hope that the claims of the college would be recognized, and help, substantial help, might be forthcoming to assist the management in improving its efficiency, and enabling them to reach the highest ideals.

COLLEGE'S CLAIM TO SUPPORT.

They had at that time to reckon with the senti-

ment that was growing in the country, and the feeling in favour of supporting local colleges, for raising the existing second-grade colleges to the standard of first-grade colleges. That there was such a feeling was certain, and in some quarters there was a desire for separate Universities. These were feelings that they must take into account. But notwithstanding that sentiment, which was to be seen at work in the different districts of the Presidency, that college was entitled, as situated in the metropolis, to a superior claim on the generous support of philanthropic people throughout the Presidency. He thought that the college had great potentialities before it, if only the necessary support was given to it; here was no reason why it should not fulfil to a very considerable measure the objects aimed at by the University at Benares, which was very near materialisation, as the college which might be expected to discharge to a very considerable measure all the functions of a Hindu University. The ideals which the college had always had before it were Hindu ideals. As had often been pointed out, the college had been carried on for Hindus by Hindus and for the purpose of inculcating and preserving Hindu ideals.

HONOURS COURSES.

If the scheme for a residential college materialised in the near future, there was every hope that the college could go a long way towards attaining all those objects which were aimed at in the more ambitious scheme of a Hindu University. It was at a time when they were pressed for funds for the departure which they had already in waiting, perhaps not appropriate that he should make any further suggestion for extending their work. But it seemed to him that that college might take up the honours courses in some of the subjects, at least in those subjects which did not require the same expensive equipment and appliances as the scientific branches. Not that he did not desire such extension, but if the pecuniary

outlay that would be required from opening honours courses in scientific subjects would prevent the realisation of his ambitions, it might be worth considering whether it was not possible to introduce honours courses at least in those subjects like history and philosophy, which more than others would have the effect of consolidating western and eastern culture. In those subjects it would not be possible to combine the knowledge of the East and the knowledge of the West, as it would be in the case of subjects like history and philosophy. Another subject which they might specialise in was the subject of Indian Economics. The University proposed to create chairs in the branches of Indian History and Indian Economics. But that was no reason why the college should not be equipped in those special branches. There must be a difference in the functions of the University professor and the College professor, for while the object of the University professor would be to stimulate research, object of the College professor would be to equip students for taking a part which would enable them to undertake the more ambitious lines of the work which it would be possible for them to carry on under the University scheme.

He had referred to the claims of the college upon the generosity of their fellows. He would like to allude there to one source of financial assistance to which attention had been so insistently and so justly drawn by Sir S. Subramania Iyer—he referred to the surplus fund of religious endowments. It was only the employment of such surplus as might be left after the full satisfaction of the purposes for which the fund had been originally left that was alluded to. They might be withdrawn and used for educational purposes, and in this connection he drew attention to a Bill which had been introduced in the Legislative Council by the Hon'ble Mr. Justice T. V. Seshagiri Iyer, to legalise the expenditure of surplus funds of religious associa-

tions. If that Bill became law it would be possible for the Trustees of these endowments to offer spare monies out of their surpluses for such educational purposes as might be held to be just and appropriate. It was worth remembering that whatever the objections to that bill might be the application of those surplus funds to such institutions for promoting education would be in the spirit of the original donors. He would suggest that there was a possibility, not with the view of preventing people from putting their hands into their pockets and coming forward to help that institution, but merely as a sort of encouragement to the Trustees of that institution.

INDUSTRIAL AND TECHNICAL EDUCATION.

There was one other aspect of the work of that institution and of those charities, to which he should like to refer, and that was the industrial and technical side of their work. That was a most wise application of the endowments in their hands, for if there were one thing more than another which was required by the people, it was a sense of the dignity of labour, and at a time when literary education was so disappointing in its pecuniary rewards it was well worth the attention of many parents to consider whether it would not be wise for them to send their children at any rate in the case of parents who were in humble circumstances, whether it would not be more remunerative, and less anxious to send them to those technical institutions. There had been a strong demand put forward for technical education in its higher forms. They should not fall into the mistake of supposing that he deprecated that the demand in any sense or degree, but one thing which was painfully apparent at the present time was the immense difficulty which men who had received a high technical education found in procuring suitable employment. The discouragement caused by that want of prospects of employment showed the wisdom of the Trustees in trying to provide in their industrial education for humbler work, which

would enable their pupils always to secure employment. As he had said before, he was anxious not to change, he was at one with them in considering that the advancement of technical education in its higher forms was necessary for the progress and welfare of the country, and it was more necessary for men of capital in the country to be induced to invest their capital in new lines and new channels other than the customary channels, for, unless they succeeded in coaxing wealthy people to invest their capital in the development of industrial concerns, he saw very little hope of securing employment for men who had received a high industrial education.

COMMERCIAL EDUCATION.

The Trustees of that institution were almost the pioneers in the introduction of commercial instruction, but the standard of instruction that was introduced was not of that grade which would enable people to run businesses successfully, or to manage industrial concerns or to promote industrial concerns. What was required was a really sound and generous commercial education such as was being attempted at the new College of Commerce in Bombay. It was only if their business men could be trusted to take a confident view of the possibility of the industrial future, that they could hope to have an advance.

CONCLUSION.

He hoped that the scholars of that college would all bear in mind the lessons that were to be drawn from the life of the founder which were impressed upon their minds by the annual commemorations. He hoped that they would cultivate the qualities which were manifested in Hindu society and by Hindu ideals, the virtues of reverence, modesty and of charity. At the same time he hoped that they would always cultivate a valuable independence of judgment, and would not run away with the idea that independence of judgment was not compatible with modesty and reverence. He hoped that the students leaving that college would be true

Hindus in every sense, Hindus in their ideals, except for a new orientation in keeping with the later views of life, that they would be trusted loyal citizens of their King-Emperor, and that they will be true patriots imbued with a patriotism that shall be ornate and wise. He hoped that that venerable institution would have a brighter and ever brighter future before it and that its beneficent influence might radiate far and wide throughout the Presidency.

AN APPEAL TO INDIAN EDUCATIONAL REFORMERS.

A hope has arisen of an early and eminently satisfactory solution of the problem of popular education in India by the application of the system advocated by the Educational Colonies and Self-supporting Schools Association; a system recommended not only because it is self-supporting but because it is held to be from every point of view by far the best plan of popular education.

The following extract from the "*Westminster Gazette*" of August 16th, 1913, gives the main facts:—

EDUCATIONAL COLONIES IN INDIA.

Captain Petavel, the Organising Secretary of the Educational Colonies Association, has long been urging that the educational colony should furnish the solution to India's education problem; and at a meeting at the Indian Institute, Cromwell Road, last night, it was announced that THE INDIAN POET AND PHILOSOPHER, RABINDRANATH TAGORE has so far been convinced of the possibilities of the system that he has offered CAPTAIN PETAVEL his help if he will go to India to start an EDUCATIONAL COLONY.

Lord Grey and Lord Crewe, it is interesting to note, have expressed a desire to be informed as to the progress of the venture.

The plan of the Educational Colonies and Self-supporting Schools Association is very simple. It is to give boys a thorough industrial training, together with their schooling, and then employ them for a short time in a well-organised industrial establishment *so that they will pay by their labour for the instruction they had received*. On a large scale, this educational organisation would be one in which the young people would be employed producing the various necessities of life *for their own use and consumption*, being in that way self-supporting without, to any appreciable extent, producing things for sale; and therefore without interfering with trade.

The Educational Colonies Association proposes to encourage the establishment, by private enterprise, of educational colonies in which boys and young men desirous of improving their education will find *employment together with educational opportunities*.

In France and in Switzerland there are farms where an excellent agricultural training is given, pupils paying for schooling and maintenance almost entirely by giving their well-directed labour on the farm.

The same thing can be done with various other industries and has been done in other establishments with conspicuous success. There is no need to wait for a large amount of money to be subscribed before making a start in that way.

There are many Indian Rulers, Landed Proprietors who could employ on their estates young men desiring to improve their education forming thus "educational colonies" on lines similar to those of the French and Swiss Farm Schools. All they would need would be the assistance of expert organisers and instructors a well-established Educational Colo-

nies Association would be able to provide. Evidently also, young men could be taken at the outset who could pay a little for the education they received and as the educational colony developed it could become self-supporting.

The first step must be to form a strong Association so that, from a small beginning, an educational colony may rapidly be established which will lead to others.

The Educational Colonies Association in England consists of many leading reformers and educationalists and it is hoped that a similar Association will soon be started in India so that the efforts of Mr. Tagore and Captain Petavel may be seconded as they should be. The help of all interested in the welfare of the people of India is earnestly solicited. All may help by becoming members of the Association and any subscriptions, however small, will be welcome towards the cost of establishing the Association and enabling its work to go forward.

EDUCATIONAL TOPICS.

EDUCATION AS A CIVIC PROBLEM.

We wish the City Fathers of Madras pay special attention to the excellent speech delivered by Mr. Hornell, the Director of Public Instruction, Bengal, on the subject of Education as a Civic Problem. There has been a tendency in the past to neglect the interests of elementary education in the city and even the present scheme of providing it with a number of school-buildings is meeting only with slow fruition. Mr. Hornell has collected valuable figures with regard to expenditure on education by the Calcutta Municipality. Out of a total expenditure of eight lakhs and a half, the amount spent directly on education is only about Rs. 33,000 and with the

addition of certain taxes on educational buildings foregone by the Corporation, the amount comes to nearly Rs. 70,000 a year. We have not the figures of the Madras Municipality before us, but we have no hesitation in saying the percentage is much lower here and the need for attention to the subject is therefore all the greater. The time has long past in Western countries when Municipalities confined themselves to problems of lighting and sanitation, but the City Fathers here seem to be quite primitive in their civic ideals and unless more active measures are put forward for the spread of elementary education, we are afraid the impression will continue. We commend Mr. Hornell's suggestion of forming a committee for educational purposes consisting of some Municipal Commissioners, representatives of the people and educational officers. We are not surprised at the neglect of education by the Corporation of Madras, when we consider the personnel of which it is composed. The association of a few people with educational experience will certainly tend to better methods of organisation and the creation of greater interest in educational work.

A HOSTEL FOR GEORGETOWN.

An excellent suggestion has been put forward about the buildings of the General Hospital which will soon become vacant by the removal of the Hospital to Spur Tank. The Hon'ble Mr. V. K. Raman Nayanar has suggested it should be made a Hostel for students in Georgetown. It is quite opportune and its acceptance will confer a boon upon the student-population of the city. We wish the authorities were fully alive to the evils that are now prevalent in the city, owing to the want of healthy facilities to students for lodging and boarding. Three hundred students of the Law College, who constitute a very valuable section of the coming generation of citizens are set adrift over the city to shift as best possible for themselves. Life in dwellings of bad sanitary

surroundings and a worse moral atmosphere is the result and one can very well despair of the benefits of University education if such is the environment in which students are brought up. With the great increase in the strength of the Arts Colleges in the city, the number of students needing hostel accommodation has grown immensely. The central situation of the General Hospital buildings, and their adaptability for hostel purposes make the suggestion an eminently valuable one and we hope the Government will not throw away this opportunity of solving a question of the utmost importance to higher education. We understand H. E. the Governor, who is in charge of educational affairs, is keenly interested in the question of hostels, and we hope he will find it possible to hand over the buildings when they may fall vacant to this purpose and earn the lasting gratitude of the student-population of this city.

THE MONTESSORI METHOD.

We are not sure if those who have been taking an interest in the Montessori method have been furnished with an opportunity of seeing a demonstration of its methods. A recent number of the *Illustrated London News* has however a very good presentation of its details in a series of pictures relating to a Montessori School in London. A glance at the pictures will serve to bring home the principles of self-reliance, freedom and spontaneity which seem to be the prominent features of the method. Here are a few children making words with blocks; they are taught to lay the tables for tea; they have to get things tidy again after tea is over; the young boys are chivalrous enough to serve ladies first; they have a few minutes of "go as you please" at the board, drawing figures which please their fancy, without being restrained by the drawing teacher; even the chairs are moved in silence, and so on. The younger children have simple exercises to perform, but the simplest has its educational value.

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One of them is trying to distinguish different materials by touch; another is walking along a circular chalk-line; a third is trying to keep the balance with a pole in hand standing on a narrow stool and yet another is trying to make something out of geometrical insets—the influence in every case is imperceptible, but real. Will not some enterprising teacher of an elementary school in our Presidency try to embody these principles in his work and give an exhibition of their operation upon his young peoples?

THE REFORM OF BOARDS OF STUDIES.

The opinion is gaining ground that the Board of Studies we have at present in the University of Madras, for Sanskrit and the Dravidian languages is sadly in need of reform. There seems to be no point in lumping them all together and having a small committee to represent such varied, though allied languages. It is not possible to have an adequate representation of the best interests of each of the languages when there is only a single committee for all of them together. There has often been the absurdity of a miscellaneous committee of scholars representing several languages, deciding matters of importance to individual languages. The Professor of Sanskrit who has probably had no opportunity of studying any vernacular satisfactorily, sits in judgment over the relative qualifications of scholars in those languages and is even allowed to discuss such matters as the standard and nature of the composition required for examination in the subjects and the amount of reform that may be introduced in their study and practice. The difficulty may be solved best by the appointment of separate Boards of Studies for each of the subjects. It cannot be that Sanskrit and the vernaculars have not as much width and diversity of interest as the other subjects embraced in the University Curriculum and there is no reason why each subject might not have a separate committee. It will lead to great

efficiency, a more adequate representation of difference of interests, and the formation of really expert opinion in each subject. The time is ripe for urging such a reform on the authorities concerned.

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VERNACULARS AS THE MEDIA OF INSTRUCTION.

The startling suggestion was made by Sir Theodore Morrison sometime ago that vernaculars should be used as the media of instruction in India even in the Universities. We cannot imagine a proposal, more retrograde or more keenly injurious to the progress of Western culture in India. The subjects of University study can never be taught efficiently in Indian vernaculars, nor is it desirable to forego the advantage of such a common medium as English which links together not only the distant provinces of India, but the whole country with the civilised West. But we can extend real sympathy to the reform urged by the Council of Indian Education, that secondary education should as far as possible be through the medium of the vernaculars. Non-language subjects are probably taught best through the vernaculars in classes up to the third form. But we are not sure if it is desirable to extend the principle to any of the higher classes. The early specialisation of the present educational courses prevents the possibility of having good manuals on non-language subjects in the vernacular and the students' knowledge of English, which is not particularly efficient even now, will get seriously impaired by the adoption of the idea. The Lord Bishop of Madras, who has himself had considerable educational experience has lent the weight of his support to this reform and we will only say we sympathise heartily with the spirit of the suggestion, though we should like to limit its operation.

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THE ADVANTAGES OF ENGLISH.

The Times has drawn pointed attention to at least two good features of the present system, which must serve as a refutation of some of the arguments urged in favour of an extreme reform in the direction:

• "On the other hand, there are two solid facts regarding the rising generation. Many boys of the educated class are growing up with a slender knowledge of their mother-tongue. The results of a Western schooling, implanted in Eastern surroundings, are widely condemned. The former defect can be cured by the prescription of vernaculars in higher courses—as is already the case in some areas. The second is part of a far wider question than that of the vernaculars. The educational system of India, especially in its higher branches, has been fixed on Occidental lines; a radical change at the present stage if possible at all, would be fraught with grave practical difficulties, and, despite views now expressed to the contrary, would encounter strong opposition. The acquisition of English is very popular—it is becoming the hall-mark of gentility and the only road to remunerative professional employment. The language forms a ready bond of union between widely different races in India and between Indians and Englishmen—a bond which could never be supplied by the transliteration of the vernaculars into Roman script, even were that possible.

In the second place, there is the question of the vernaculars themselves. It is often said they are suffering from the confinement of the higher branches of study to the medium of English. Curiously enough, Macaulay's minute supplies two partial refutations of this position. He points to the influence of Greek and Latin upon the literature of Europe in the Renaissance, to the languages of Western Europe upon Russia. Both examples are apposite though the linguistic reform effected was only part of the infusion of wider and deeper ideals of life and

culture. India affords a perfectly parallel instance. The indigenous genius survived, strengthened but not essentially changed by the stimulus from the West. Mr. Tagore's poems are set in an atmosphere which we feel is foreign, though very human. The complaint should be, not that our system has injured or destroyed the vernaculars, but that it takes insufficient care for them and thus, though they have received new life from Occidental education, they have not derived the full benefit which a wider use of them would secure."

* * * *

THE FEAR OF THE PEDAGOGUE.

We are indebted to the *London Times* again, for drawing attention to the position assigned to schoolmasters in society. Several reasons have been put forward for the fear of the Pedagogue supposed to exist in genteel society to-day. We are not aware of any instructive dislike to the schoolmaster on the score of his having been a foe in boyhood, nor have we noticed any tendency on the part of schoolmasters to be more gregarious among themselves than people of other professions. If there is any difficulty on the part of the schoolmaster in India, in taking the position which is his due in society it must be set down to two important circumstances. His economic position is so discouraging that he has often no chance of maintaining all the external dignity necessary for the superior classes in society. The unfortunate circumstance of serving in institutions managed by committees of people belonging to other professions, a feature which seems to be peculiar to this country, has often made them lose much of their self-respect and dignity. But the learning and culture of the educationist, which is generally superior to those of the members of other professions must serve as a passport to the best society in the country, and in the case of men connected with University education it must be no difficulty at all. We

are anxious to point out in this connection that it is eminently essential even for the educationist to play his own part in society and public life. Otherwise his vision is apt to get narrow and he will deteriorate into a soulless book worm whose influence on the students entrusted to his charge cannot by any means be exhilarating.

* * * *

A RESIDENTIAL COLLEGE FOR MADRAS.

If Northern India is going to see the establishment of residential Universities at Dacca, Benares and Aligarh, Madras will soon have the privilege of seeing Pachaiyappa's turned into a residential College. With the laying of the foundation-stone of the hostel at Chetput, a beginning will be made for having a residential college, with buildings for the college classes and houses for a large number of members of the staff. One or two magnificent donations, which will be announced formally in a few days, and a special grant from the Government have made it possible for the management to think of such a scheme. We wish the enterprise all success and hope that within the next few years, at least some of the hundreds of the under-graduates of the University will have the privilege of being trained in an atmosphere of pure study and enjoy University life in the highest sense. It may be reserved for some future son of India to sing of its 'distant spires' and 'antique towers,' and catch some of the enchantment whispered by its dreaming shades.

A. PROFESSOR.

EDUCATION IN THE MAGAZINES. (INDIAN)

Female Education by Mrs. Annie Besant.

Under the auspices of the senior branch of the Teachers' College Association, Mrs. Annie Besant delivered an address on "Female Education," with the Hon'ble Mr. Justice T. Sadasiva Aiyar in the chair.

Mrs. Besant, in delivering her address, prefaced her remarks by saying that no question was of profounder interest to the thoughtful men and women of India than the subject of Female Education. She referred to the past glory of Indian women in point of education and said that if they looked to the past they would not find such a gulf of difference between the education of Indian men and women as in the present day. There ought to be a certain common basis of education given to all—education in religion, education in morality, and education in Vedic books should be the common basis. The restrictions placed on the education of the women had stranded India to the detriment of the whole population. She exhorted those assembled to give not only their girls, but also their married women a good education in religion and morality. They should keep the education given to their girls under the entire control of Indians profoundly religious and intellectual. Religion and morality founded on religious beliefs should be the basis of female education. As far as the girls were concerned the education given to their people should be through the medium of the vernacular for instructional purposes. English might be taught as a matter of knowledge. She advised them to give their girls a good knowledge of Indian history in the past so that they, the girls, could take an intelligent pride in the country, a pride which was the basis of self-respect and patriotism. She advised them to write in their own vernaculars the histories of the great men and women of India down to modern days and make these books the readers for their girls. Give the girls first a knowledge of their own vernaculars, then a knowledge of English as a necessary knowledge, and then a knowledge of arithmetic, hygiene, and of first aid. After this she asked them to give their girls some artistic education, because Indian woman generally desired beauty, that they might add to the happiness of the house. These were the changes that they must think of in giving education to their girls in order that they might share with their mates the delights of life. They should associate their women in their interests—in their hopes, struggles and difficulties. She pointed out

that it was because of this feeling of union of interests that the men and the women in South Africa were both alike struggling for passive resistance.

Sir Pherozechah Mehta on Literary Education.

The second annual dinner of the Elphinstonian Society took place on Saturday, the 7th inst., at the Elphinstone College. The Hon. Sir Pherozechah Mehta gave the toast of His Excellency Lord Willingdon. He said:—

The memory of the great statesman from whom this College derives its name is reverently enshrined in our hearts. In these days when we hear so much of 'The Indian Peril' and the perils of education, I cannot resist the temptation of repeating the story. I have often repeated before, perhaps you will think, it is to me like King Charles head to poor uncle Dick,—which is related of him by General Briggs who served under him at the time of the Second Mahratta War. 'Finding in a corner of his tent one day,' says General Briggs, 'a pile of printed vernacular books, I asked him what they were meant for.' 'To educate the native,' said he, 'though it may be our high road back to Europe.' Then says General Briggs: 'I told him that I wondered that he, as Governor of Bombay, should have set it on foot.' He gravely replied, 'we are bound under all circumstances to do our duty by them.'

It cannot for a moment be imagined that such a strong and sagacious statesman and administrator should have been indifferent to the question of the safety and stability of British rule in India. But we understand what he meant, that the path of duty was equally the path of glory and of wisdom. Our education has taught us that the integrity and stability of British rule is founded on a bed-rock, the bed-rock of the fact that it is indispensably essential for the circumstances, the needs, the requirements, the necessities of the country, and that in the inscrutable dispensation of Providence the task is entrusted to it as the most suitable agency for moulding and guiding the lofty destinies of this great and magnificent land of ours. I have left myself no time to speak of the other great men connected with this College, particularly the great teachers who have left indelible marks on the lives and characters of so many of its students, such as Sir A. Grant, Drs. Wordsworth and Selby, Mr. Hawthornethwaite, Mr. MacMillan and many others. I am sure it would do your Excellency's heart good to hear, as

I have heard and still hear, the warm expressions of attachment, love and veneration with which these names are perpetually remembered by those who have been under their influence and teaching. That teaching has not been merely what is called secular, but of high moral and spiritual value. But I must leave this subject or I may never finish. I will content myself by quoting an observation I read only the other day in Lord Morley's speech at the Manchester University:—'I count those critics not wrong who say that Goldsmith with his Vicar does more for what is best and kindest in human nature than 100 preachers and 100 sermons.' We are thankful to be able to add your Lordship's name to this illustrious roll as of one who trained in that great school of public life, the British Houses of Parliament, has already given proof of high statesmanship. I now ask you, Gentlemen, to drink cordially and enthusiastically the toast of our distinguished guest H. E. Lord Willingdon.

Higher Grade College for Ruling Chiefs, by His Excellency the Viceroy.

The Conference convened for the purpose of discussing the question of the establishment of a higher grade college for the sons of Ruling Chiefs opened on the 3rd instant. The following are extracts from the speech delivered at the Conference by His Excellency the Viceroy:—

The object with which you are gathered is one which, I need hardly say, is as close to the heart, of the Government of India as to your own, for it is on the education and enlightenment of the Ruling Chiefs and their *Sardars* that the moral and material progress of India in no small measure depends. I was glad to learn from the proceedings of the last Conference that after a discussion which displayed in a remarkable manner the capacity and public spirit of those who took part in it you decided unanimously that it was desirable to establish an institution for the higher education of boys from the Chiefs' College and that a separate college should be founded to be called with His Majesty's permission "King George College" which would seek the privileges of a degree-giving institution. I was further glad to note that the majority of you were prepared to support your opinion by generous donations and subscriptions amounting in all to a capital endowment of about 15 lakhs of rupees.

It will be within the knowledge of most of you that an opportunity was recently given to the general councils of the Chiefs' College to consider

an alternative plan to that adopted by the Conference last year for attaining the object which we all have in view. Briefly, the alternative suggested by the Government of India was that in place of a single institution, providing instruction for all classes now educated at the Chiefs' College, there should be two separate institutions, one for Ruling Chiefs and their near relatives, and the larger estate-holders who would not require the hallmark of a University degree, and another for the *Sardars* and others requiring a degree. The former class might, it was suggested, be served by the Imperial Cadet Corps, developed on new lines, and the latter by a separate *Sardars' College* or hostels at selected colleges. I gather from the proceedings of the college councils that this alternative plan has not met with general approval and that the majority of the Chiefs are in favour of adhering to the original plan. It will be for the members of the Conference to determine now whether that plan should be finally adopted. I have no wish to prejudice your decision but I should like to make it plain that the alternative suggestion was put forward mainly because I was advised that the original plan was not wholly approved by a certain number of the more important Chiefs and because it seemed desirable before another Conference was held to give a further opportunity of discussing this all-important question. Should you now decide to adhere to your original resolution you may be assured of my full sympathy and support.

The next question for discussion is that of the location of the proposed college. I understand that the larger body of opinion is in favour of Delhi as being more central than Ajmere and in anticipation of this view being adopted, I have already taken steps to secure that a suitable site in the vicinity of the new city should be reserved for this object. The remaining questions are of comparatively slight importance with the exception of that which appears last on the programme, namely, the question of finance. This presents a problem which will require your very careful consideration. The position at present is not altogether reassuring. The amount required for the establishment of the proposed college is estimated at Rs. 64 lakhs, or Rs. 75½ lakhs if a science course is provided. The subscriptions and donations already promised, including the annual subscriptions of half a lakh which the Government of India have undertaken to recommend to the Secretary of State, amount to a capital sum of approximately Rs. 28 lakhs. There remains therefore, a sum of at least Rs. 36 lakhs to be collected if the college is to be properly equipped and endowed. By what means and from what sources is this large sum to be obtained is the

problem which you have now to solve. I have already informed you that the Government of India are prepared to recommend an annual subscription of half a lakh of rupees towards a scheme which meets with their approval and I regret that I am unable to hold out hopes of a further grant from Imperial revenues. It seems therefore that if the scheme is to go forward the Ruling Chiefs of India must either combine together to find the extra 36 lakhs required or must be prepared to invite contributions from the aristocratic families of British India.

The Present-day Education, by H. H. The Yuvaraja of Mysore.

"At the distribution of prizes held in the Mairmallappa's High School, Mysore, H. H. The Yuvaraja spoke as follows on the condition of education in the present day :—

Gentlemen, it may not be out of place here to review briefly a few salient features of the present day conditions of education among us. What is education but a work of preparation for the every day battles of life? I believe that the problem of our education, like all our other problems, must be considered from the standpoint of its relation to the practical affairs and every day life of the people of this country. The needs and opportunities of agricultural life along with the industrial struggle that is coming into existence all round must in fact mould into shape to a large extent, our educational policy and programmes, or, in other words, our public instruction must be directed with conscious and careful regard to the probable future careers of those we are educating. I lay stress on this fact, as hitherto our education has been all too one-sided. It has perhaps been a little all too literary with not much practical side to it. The consequence has been that our Universities have been turning out graduates in ever increasing numbers men, very intelligent and scholarly no doubt, but lacking the training where withal to apply the knowledge thus acquired to practical purposes. By this I do not for a moment mean that Art should not be pursued for its own sake; but our education should, in addition, receive a wider interpretation than the one it has been receiving in this country. We have a number of young men thus graduated who under the present circumstances, when competition for Government employment—the usual means of ready livelihood that existed for them—is so keen and the market, so to speak, flooded—are absolutely left stranded with practically little to do. This breeds idleness and along with it discontent. These are not, you will admit, wholesome qualities that go to form good

citizens. So we are all convinced I hope how very necessary it is that our education should be brought to us in an ever so much fuller sense.

My young friends, many of you who are here to-day perhaps hardly give a moment's thought amidst your study and games to the duties you may be called upon to perform in after-lives. Varying as they must be according to individual capacity, chance, luck and other circumstances, this much seems clear: that you have all to perform the service the motherland expects of you and the legitimate duty you owe her as her true sons. This must ever be kept in view and your lives now here in the school must largely be a preparation towards the more onerous ones to follow.

Towards this end, may I say how very necessary it is that moral and physical culture should receive their due share of attention. Holding as I do that the building of character is a condition precedent to moral, social and intellectual advancement, indeed to all national progress, I could not too emphatically beseech you to nurture such qualities as moral courage, rectitude, self-reliance, self-sacrifice and independence with due regard to authority and superiors. This, I think is achieved to the extent that mutual understanding and co-operation prevail among the teachers and the taught. No doubt much of this should be done at your homes as well, but the school offers special opportunities for character building, more so if there are residential institutions, which with us, I am afraid, are yet to come.

A word must be said about physical culture. This is just as important if not more. I should in this matter even venture to suggest that school pastimes be made as compulsory as the school studies themselves. This should certainly tend more to give us healthy, jovial and intellectual individuals than mere thinking machines. The importance attached to physical culture in all English schools is, as you all know, so remarkable. And it is a matter of pleasure to learn about your athletic associations that they have all along fulfilled their objects with great credit to themselves.

FOREIGN.

Scientific Research—English and German Methods.

The methods of teaching science in the public schools and the prospects in the profession for boys who have had a scientific training were dealt with by Professor H. B. Baker, the President of the Association of Public School Science Masters, at the first sitting of the general meeting of the

Association, which was held on January 13 at the Imperial College of Science and Technology, London.

Professor Baker complained of the predominance of the classics in the public schools. Latin and Greek ought to be regarded as luxuries and not as essentials in education. He hoped there would soon be an organized revolt of British parents against this system, and a demand that their boys should be taught subjects that would be useful to them in after life, such as modern languages, science, and mathematics. To a boy with a sound training in chemistry many avenues of employment were now open. This was largely due to the awakening of British manufacturers to the usefulness of scientific research work in all directions. Yet it would be no exaggeration to say that for every industrial research chemist in this country there were 20 in Germany. However, there was no doubt that in the last five years the number of chemists of the research type employed by large firms in this country had enormously increased. It was for the science teachers to see that this most healthy movement, which was of imperial importance, was not checked by the poor quality of the men sent into such works. Unless they were men with a natural aptitude for investigation and properly imbued with the research spirit, both at school and at college, it would be nothing less than a great misfortune for the country.

Professor Armstrong, proposing a vote of thanks to Professor Baker, said that all this talk about the superiority of German research work in science was moonshine. Undoubtedly there were a few men of genius in Germany who, having more disciplined material to deal with, and being placed in conditions different altogether from ours, had done a great deal of work which we had not been able to do. But in the matter of ideas the history of the development of chemistry and physics in the last few years showed that this country stood level with Germany, if we did not lead. It took 10 Germans to do the work of two English men. In the laboratory the German gave commands and the laboratory boys—the really clever people—did the work. The pictures of the superiority of Germany presented by Lord Haldane and other worshippers of that country were altogether overdrawn. These people had never been behind the scenes of German works, as he had. If we could only get rid of this German myth and not talk eternally about the superiority of the Germans, but do the things we were set to do in our own conditions, we should get on better than we did. We had only to consider the mediæval conditions

which had been disclosed in Alsace during the past few days to get the measure of the German mind. The country which could stand that state of things could stand most things, but it was hardly a country where individuality and originality developed. Nevertheless, we had much still to do in order to be able to take up our proper place in the world. He had recently been reading the histories of the expeditions of Scott and Amundsen to the Polar regions. Amundsen's account showed that every moment during the winter was devoted to preparing himself for the final attempt to reach the Pole. Every action was carefully thought out. There was not a word of evidence that Scott's party did anything of the kind. No science was evident, except at the desk, in the English expedition. Amundsen's expedition was all science.

Mr. C. E. Ashford, Headmaster of the Royal Naval College, Dartmouth, said the genius of the English lay rather in the giving of orders than in doing more or less routine work. It was the administrator and not the expert whose success was best rewarded by cash. He was not in agreement with what Professor Armstrong had said looking on while the laboratory boys did the work. One of the most valuable qualities in a man was that he could give orders and see that they were carried out.

Lord Haldane on Education.

Viscount Haldane has contributed a highly interesting article on present-day educational problems to the March number of "Nash's Magazine." His Lordship declares that:

"All that Great Britain is and may be in the world of material power and organised rivalry is involved in the question whether she stands ready to educate herself to the level of her chief competitors. On the answer that is returned to that question depends the fate of the generations to come. We can measure and prepare to meet our visible enemies or potential enemies. But there is a deadlier peril menacing these islands than any foreign army or foreign navy. It is the peril of ignorance, of mental inertia of slipshod ways of thinking and acting, of a depressed average of intelligence, of a preference for casual improvisations and rule-of-thumb methods where our rivals rely on scientific forethought and organisation.

"The German chemist and professor and administrator, working unseen in their laboratories and class room and offices, threaten our standing in the world of nations less directly perhaps but more formidably than any fleet or Dreadnoughts. What we have to do is to face them on their own

ground and make ourselves as painstaking and efficient as they are. It will be a costly undertaking, but every penny spent on it will be salvage expenditure and cannot be stinted.

The crisis that confronts us—and it is a crisis—will be solved only by approaching it in the spirit in which Germany grappled with the problems of her own resurrection when a century ago she lay humbled under the heel of Napoleon. Who saved Germany then? It was men like Fichte and von Humboldt who called upon the German people to educate themselves. That more than anything else has brought Germany to the height she now occupies. The same call is made upon us to-day. We, too, have to recognise that in education lies our future.

Lord Haldane says that the Government are determined to place our educational system on a really national and coherent basis, and adds, "A true system of national education is something that I regard as absolutely vital to the whole democratic movement in these islands; and it is nothing less than this that the Government intend to set about establishing this year."

"What is needed more than anything else," His Lordship adds, "is a campaign of education.....No small number of Englishmen of the upper classes still appear not to have outgrown the suspicion that education is something dangerous and ensnaring, that it 'unsettles' people and makes them too 'independent' and gives them ideas above their station. What is far more serious and deplorable is that the world of business should not yet have quite overcome a similar scepticism. There is nothing like the demand here that there is in Germany for the specially equipped student.....Instances abound where important manufactures have been wrested from the English because their rivals have adopted more scientific methods.

Referring to the period when he was at the War Office, Lord Haldane says: "I was appalled to find that something like 13 per cent. of the recruits could neither read nor write. Why? They were taught these accomplishments at the elementary schools, but the moment they left school they forgot all they learned; it had no further interest for them. The reason was that there were no secondary or continuation schools that appealed to them, or that seemed to hold out any promise of a career, and consequently no encouragement or inducement to them to keep up their studies. We had to educate them all over again."

THE UNIVERSITIES.

THE BOMBAY UNIVERSITY.

VIEWS OF SIR ALFRED HOPKINSON.

Sir Alfred Hopkinson Vice-Chancellor, Manchester University and expert adviser to University of Bombay, delivered a very interesting and instructive Address to the Fellows of the Senate on the 26th ultimo, the Vice-Chancellor Justice Heaton presiding. There was a large attendance of Fellows. In his speech Sir Alfred dealt with various points, the first of which referred to the providing of suitable accommodation for carrying on the work of the University. Sir Alfred said the question of removing to an entirely new site appeared to be impracticable even if the Sciences Institute had not been placed near and for extra space required for new buildings he thought the Secretariat and adjoining land might be devoted to those purposes. The next point touched was the mode of carrying out proposals already approved with regard to the addition of the staff of the University as a body for promoting teaching and research and in that connection he gave the opinion that the time had not yet come for any such radical change as the establishment of separate teaching Universities in two or three centres in the Presidency outside Bombay and added that the true policy was that on which the University had already embarked. Dealing with the subject of arts the largest and most important faculty, Sir Alfred alluded to two subjects which appeared to him to be of permanent importance in India, firstly the question of research into the cause and character of diseases especially tropical diseases and secondly promotion of agriculture. With regard to the former, he said he had prepared a short memorandum trusting that earnest support would be given to those who would have to frame and work out a scheme for dealing with the matter. With regard to the latter, he said that it was encouraging to feel that in this matter every useful forward movement appeared sure to have the warmest support of Government and he would wind up by saying that with the conditions that existed there was every ground for encouragement and for hope in the future.

The Hon. Mr. Gokuldas Parekh's term of office as a Fellow of the Bombay University having expired, he did not seek re-election, probably owing to advancing age. Mr. Parekh, who is one of the most honoured and public-spirited citizens of Bombay, is now 67 years old. Mr. D. G. Padhye, Principal of the Gokuldas Tejpal High School and Editor of the *Indu Prakash*, has been

re-elected by the graduates and Mr. Vishwanath P. Vaidya has been elected in Mr. Parekh's place.

ALLAHABAD UNIVERSITY.

INCREASE OF FELLOWS.

At the United Provinces Council, the Hon. Dr. Tej Bahadur Sapru moved the following resolution:—

"That this Council recommends to his Honour the Lieutenant-Governor that he may be pleased to move the Governor-General in Council to take steps to bring about an amendment of the Indian Universities Act, 1904, so as to provide that in the case of the University of Allahabad the maximum number of the ordinary Fellows, shall not be less than one hundred."

The mover said that it was a business-like proposition and he would deal with it in a perfectly business-like manner. Under the constitution of the University it was necessary to have certain faculties and at present they had five faculties. He then referred to a speech of Sir John Hewett in which the ex-Lieutenant-Governor said that the Allahabad University ought to extend its energies in other directions, and he particularly referred to the Faculty of Engineering. Turning to his resolution he said that in order to commend his resolution, he had nothing further to add than to quote the remarks of the learned Vice-Chancellor on the occasion of the last Convocation.

The Hon. Mr. O'Donnell accepted the resolution on behalf of the Government.

TECHNICAL EDUCATION.

TYPE-WRITER TOPICS.

THE OLIVER COMPANY GIVES UP THE PRESENT MACHINE?

The report is rather persistently circulated that the Oliver Typewriter Co. will in March bring out a new model typewriter, the blief being that it will be one on the accepted present-day popular plan of front stroke.

Possibly the latter conclusion is based upon the report that E. C. Stearns & Co. and the Oliver Company have taken out some patents in conjunction and that substantially the old Stearns Typewriter will be brought out as a new product from the Oliver factory. That the Oliver Company has acquired the Stearns machine is not denied

and color is given to the rumours afloat because of interests formerly held by J. E. Thomas having passed, it is said, to the Oliver Company.

REMINGTON NOTES—January Number.

The January issue of *Remington Notes*, Vol. 3, No. 5, is the best one yet. This latest issue of *Remington Notes* appears in a beautiful two-color dress of blue and black, the typographic and pictorial features of this little magazine being one of its strongest merits.

The January issue of the *Notes* announces a jump in circulation from 120,000 to 160,000, and this circulation is still growing rapidly. No one who looks over a copy will be surprised, as it is hard to conceive of a publication of greater practical value for the typist. That one department, "Practical Points in Typing," for example, contains matter in every issue which no typist can afford to miss.

An unusual feature of the January *Remington Notes* is an article entitled "A Brave Battle Against Odds," describing how a young woman who had lost both hands and fore-arms in an accident was nevertheless enabled to become an expert shorthand writer and operator of the Model 11 Remington. The spirit which enabled this girl to meet and to overcome such an extraordinary obstacle should be an inspiration to every stenographer.

Copies of *Remington Notes* may be obtained at any Remington branch office. A request to the Remington branch office, Y. M. C. A., Esplanade, will result in your name being placed on the *Remington Notes* permanent mailing list.

BOMBAY COLLEGE OF COMMERCE.

The Secretary of State has appointed Mr. P. L. Anesty B.B.Sc. (London) as Principal of the Bombay College of Commerce. Mr. Anesty was in charge of the Department of Economics of the Bristol University for the last two years and after his present appointment he was deputed to visit certain institutions in England and Germany for studying the organisation and methods of schools of commerce in those countries. He has arrived in Bombay and assumed charge of the Principalship.

Mr. Visweswarayya's administration of the Mysore Government is to be congratulated on the introduction of Commercial Examinations independently for the State of Mysore. They have secured from the British Territory the services of Rao Saheb S. Vaidyanatha Iyer, Headmaster,

Government School of Commerce, Calicut, and Mr. P. K. Ramaswami Aiyer, of the enterprising firm of Messrs. Ramsay and Sons, Esplanade, Madras, as examiners.

STENOGRAPHY versus SHORTHAND.

Students take to Stenography readily and with more enthusiasm, and work with more zeal than they would in shorthand. It is more fascinating to them and easier for the teacher. They begin with the first lesson, to see that they are learning something that would be valuable to their future business careers. Each day's work brings increased results which keeps them going always looking ahead and anxious for the next day's lesson. The pupils grasp the fundamental principles of Stenography rapidly and easily. Their progress is marked with eager interest, decreased labor and a burning desire to acquire the same high standard of excellence in Typewriting, English and Spelling.—

Numerous classes have been started in America and from the reports we find in the *Typewriter Topics* every month that the matter now being dictated to the classes beyond the limitations of shorthand-writers. Difficult articles from technical magazines, editorials from newspapers, etc., are easily taken and read back correctly.

Reviews and Notices.

EXERCISES AND PROBLEMS IN ENGLISH HISTORY (1485-1820), BY W. J. R. GIBBS. (CAMBRIDGE UNIVERSITY PRESS.) 2s. 6d.

The book presents extracts from contemporary chronicles, State-papers and other original authorities, and attempts to make the student answer certain questions at the end of each exercise. It shortens the answers and hence reduces the amount of correction without necessarily detracting from the worth of the answers. Besides, it trains the student's faculty of deducing inferences and connecting cause and effect. The book is a valuable companion to the study of source-books in modern English History.

A FIRST HISTORY OF ENGLAND, BY J. NELSON FRAZER. (BOMBAY: K. and J. COOPER.) Re. 1-2-0.

The book is the latest addition to the large number of existing elementary text-books on the subject. The language is quite simple and

easy which is a special feature of the book. The details given are such as can be easily grasped by the young mind, while controversial topics are carefully avoided. The appendices on dates and on a brief sketch of European history may prove highly useful; and the date-chart is especially valuable. The large number of well-prepared illustrations and maps gives the boy quite a good idea of the gradual development of English life and dominion.

BRITISH ADMINISTRATION IN INDIA, BY G. ANDERSON. (MACMILLAN AND CO.) Re. 1-12-0.

This short sketch of the administration of British India is essentially intended as a text-book for the college student and hence is more a statement of facts than an expression of opinions on political issues. The subject is treated in a lucid and clear way and the explanation of the working of Provincial Governments, District administration and Local and Municipal bodies will clear away the general ignorance of boys on these subjects. The fourth volume of the Imperial Gazetteer is a formidable tome which the ordinary student finds difficult to master, and hence this book satisfies one of the prime necessities of historical instruction. The view taken of the policy and action of Government is a detached and impartial one; and the chapters devoted to the elucidation of the financial and land-revenue policy of the British as well of the educational system in force are very valuable not only to the student but also to the general reader.

AN INTRODUCTION TO ECONOMICS FOR INDIAN STUDENTS, BY W. H. MORELAND. (MACMILLAN AND CO.) 5s. net.

The study of Political Economy by Indian students is rendered specially difficult by the absence of text-books which deal with the application of economic laws to Indian conditions. They have to get through works written with special reference to either English or American economic data; and for the greater part of their college career they are kept aloof from both a thorough comprehension of the significance of India's peculiar economic state and a possibility of using their knowledge of economics to a furtherance of the Indian economic science. This is one of the main reasons which account for the lack of the practical side in our study of economics. Mr. Moreland has taken the first step towards the task of explaining the working of economic

laws and phenomena in terms familiar to Indian students and thus of enabling them to turn their theoretical knowledge to some practical benefit. As he writes in the preface, the book is intended "to provide the students with opportunities for observing economic facts themselves whether in the form of price lists, market reports and selected statistics or of facilities for seeing how production is actually organised in the neighbourhood of their college," and to make them realise "that the science arises out of the facts of life and is not a thing to be first learned and then applied to those facts."

The special features of Distribution in India, viz., the peculiar nature of Indian rent, the application of the Classical Theory of rent to Indian conditions and the necessity of legislation for its limitation, are lucidly treated. And the scarcely less important questions of the specialisation of labour and the influence of caste in relation to it also receive ample treatment. The book is intended as a preliminary to the study of larger, higher and more abstract works; and it lays special stress on the necessity of comprehending the unity of the science and on the need of co-ordinating our knowledge of the forces of Distribution and Production. We commend this volume to the earnest attention of all teachers and students.

A NATIONAL SYSTEM OF EDUCATION, BY JOHN HOWARD WHITEHOUSE, M. P. (CAMBRIDGE UNIVERSITY PRESS.) 2s. 6d. net.

Written by a Member of Parliament, and having met with the general approval of the Executive Committee of the Liberal Education Club of the House of Commons, the book is strong proof of the interest taken, in responsible quarters, in the all-important subject of national education. The defects in the existing system are pointed out, and the directions in which reforms might be effected are clearly indicated. The one defect that vitiates the entire scheme is said to be the lack of unity, the lack of co-ordination between elementary education and the later and higher forms. A national system of education should, it is urged, be a connected whole with its various parts properly related, each taking its place in the well-ordered general scheme. While the truth of this cannot be denied in theory, it should, nevertheless, be pointed out that what is here complained of as a defect is an unavoidable concrete situation which must be allowed for in any practically workable

scheme. We must recognise, for instance, the need for a distinction between an *elementary school* and the *elementary or primary department* of a secondary school. Owing to a variety of causes several children will have to stop their education at intermediate stages in their career, and it is desirable, therefore, that the provision made is such that the scheme of education may be rounded off at each stage. The aims and objects of such 'complete' schools should be distinct from those of others which lead up to a higher school. The suggestions are all practical and cover a wide field, beginning with the equipments of the elementary school and ending with the research and experimental work to be carried on in the Universities. In the small compass of 90 pages the book offers valuable instruction and guidance to those who may have the desire to acquaint themselves with the various phases of the problem of national education.

A CENTURY OF PARODY AND IMITATION, EDITED BY WALTER JERROLD AND R. M. LEONARD. (OXFORD UNIVERSITY PRESS.) 2s.

The Oxford Edition of Standard Authors is among the most valuable work of the Oxford University Press. The series has served to bring before the average reader all the best poetry in English literature in a very attractive form and with all the authority of true scholarship and research. Students of poetry will welcome the appearance of this anthology of parodies and imitations, which has all the *Rejected Addresses* and a very representative selection of pieces from the parodists of the nineteenth century. It is a truism to say that no one has any real faith in a thing if he cannot afford to play with it and that indicates the value of the parodist's art to the appreciation of poetry. There cannot be a realisation of good poetry in all its aspects, without an occasional attempt at the humorous perception of a poet's weaknesses. We have nothing but praise for the choice of the pieces and the judicious notes at the end. The book should have derived additional interest and usefulness if it had been prefaced with a critical study of parody. It is rather difficult to understand the omission of the well-known *Parodist's Apology* of J. K. Stephen which has a bearing on the whole question of the spirit of parody:

If I've dared to laugh at you, Robert Browning,
'Tis with eyes that with you have often wept,
You have oftener left me smiling or frowning,
Than any beside, one bard except.

We have however no hesitation in saying it is about the best collection of parodies we have known and ought to find a place in every library. It is much more exhaustive than Henry Morley's edition of *Parodies and other Burlesque Pieces* in the *Oarsbrook Library* and more valuable to the student than even the excellent volume on the subject, *Crabbe to Christin* in Miles' *Poets and Poetry of the Nineteenth Century*.

HAZLITT ON ENGLISH LITERATURE, BY JACOB ZEITLIN. (THE OXFORD UNIVERSITY PRESS) 5s.

In the purely literary aspect of essay-writing we have hardly a better exponent of the art than Hazlitt. His love of intellectual investigation, his capacity in the exercise of the critical spirit, and the excellence of his medium of expression invest his essays with special value to the student of literature and Dr. Zeitlin is right in thinking that his writings should afford instruction in literary criticism of a high kind. The volume under review is meant to serve as an introduction to the study of literature, containing extracts from Hazlitt treating of almost every period in English literary history. The average student of literature has probably not realised the exhaustiveness of Hazlitt's treatment of English literature and it must really come as a surprise to many that it is possible to evolve a history of English literature by piecing together extracts from the work of the essayist. The introductory essay is as well-written as it is profound, and the notes are very valuable. The sources from which the extracts have been chosen might very well have been mentioned at the end of the passages themselves without finding a place only in the Notes.

THE POETICAL WORKS OF WILLIAM BLAKE, EDITED BY JOHN SAMPSON. (THE OXFORD UNIVERSITY PRESS) 2s.

In his recent address on *The Place of English Literature in the Modern University*, Sir Sidney Lee says that "the scholarly text is the first and foremost source of literary knowledge," and we wish to say we are perfectly satisfied with the text of Blake's poems presented in this edition. The editor has been well-advised in going to the very original sources and giving us the poems exactly as Blake wanted them to appear. The reproduction of the title-pages designed by the poet himself lends a picturesque feature to the volume. Some

of the unpublished poems have been included here for the first time and the longer ones are represented by a few extracts. Some of his letters and passages have been included too and the foot-notes supply all the additional information expected of a learned commentator. The bibliographical introduction is of great value and must satisfy the requirements of even advanced research. The mysticism of Blake has much in common with the spirit of Sanskrit literature and it has always been a wonder to us how his poems have not commanded wide popularity in this country. It is hoped the publication of this handy volume by the Oxford University Press will serve to bring his work prominently to the notice of Indian students. The tendency to confine one's attention to only the best masterpieces in a literature has its own evils and the importance of studying the work of poets like Blake cannot be exaggerated.

A PRIMER OF ENGLISH LITERATURE, BY W. T. YOUNG. (THE CAMBRIDGE UNIVERSITY PRESS.) 2s. net.

The difficulty of chronicling the developments of such a rich literature as English within the compass of a short manual, is one of no ordinary magnitude. The choice of the authors dealt with must necessarily exclude at least some popular favourites; the biographical element is apt to be reduced to a minimum and the critical examination must be of the most perfunctory kind. It is not possible to offer a more striking compliment to Mr. Young, than to say that all these dangers have been avoided. The biographical passages might very well have been longer, even at the risk of increasing the size of the book, but adequate justice has been done to the work of criticism. It has been a great pleasure to us to notice his able analysis of the genius of writers dealt with in the volume. We might instance this passage about Gray: "There is a magic appeal in the solitary figure of the *Elegy*, even though we cannot form any human picture of him, reflecting in a mood of resignation in the hushed twilight landscape upon the lot of the rustic poor, who are fond of fame, yet doomed, like all their fellows, to the inevitable grave. The appeal partly lies in the finely phrased truisms, about feelings the occasions of which are common to all; partly in the implicit human cry for sympathy. The polished diction and rhythm have a rare quality which transcends the formal

balanced epithets and the excessive use of inversion, things which, in themselves, would stamp Gray's genius as of his age." Some of the sentences are however sadly in need of revision, with a view to greater elegance and the following may be given as an instance: "He found in the classes of high rank and deep-rooted tradition, in which the best of the men are natural rulers, though they may not be great thinkers, and the best of the women are leisured, cultured, vital and witty, the scene and matter of his art."

COLLEGE ENGLISH, BY FRANK AYDELOTTE. (OXFORD UNIVERSITY PRESS.) 3s. 6d.

Mr. Frank Aydelotte's manual of *College English* has at least the charm of originality about the method of its presentation. A very successful attempt is made to give instruction in the principles of criticism in several chapters on literary subjects. The aim and nature of literature is set forth in a series of chapters devoted to the examination of some essays on the subject by some well-known writers of the nineteenth century. There are Newman's remarks on liberal knowledge and the essence of University education; Arnold's idea of culture; Huxley's examination of the relations between literature and science; Ruskin on literature and economics; the *Hero as Poet*, by Carlyle and a general survey of the place of literature in education. A critical examination of Wordsworth, Pope, Milton and Shakespeare is intended to illustrate the application of critical principles to literary masterpieces. We are particularly glad to notice a treatment of Sidney's *Theory of Poetry*, as there are few pieces in literature calculated to give a nobler interpretation of the ends of poetry than the *Defence of Poesie*. In spite of all this valuable material it is difficult for us to believe it can be used as a *manual* for literature and composition in the college classes. But it is quite an interesting and able book on literature and literary criticism and must find a large number of readers in our Universities.

SUBHANDHU'S VASAVADATTA, EDITED BY LOUIS GRAY, PH.D. (COLUMBIA UNIVERSITY PRESS.) 6s. 6d.

The advance there has been in recent years in the methods of critical scholarship and research is illustrated admirably in this recent addition to the Indo-Iranian Series of the Columbia University Press. We have no hesitation in saying

that Dr. Gray's edition of *Vasavadatta* should serve as a model for all editorial work in connection with literary masterpieces. It has attained a remarkably high level of excellence in all the aspects essential to render a publication of the type of great value and authority. Profundity of research, critical sympathy, grasp of details and wide scholarship are patent on every page. The love-romance of *Vasavadatta* is examined in all its bearings, not only on the literature and folklore of India, ancient and modern, but also on the romance and fiction of the West. It is a delight to enter into Dr. Gray's pursuit of literary parallels.

We have often noticed the disastrous results following in the wake of an examination of Eastern literature without an appreciation of the standpoint from which it has been written. Dr. Gray is not guilty of any such mistake. He can sympathise with Eastern ideals of art and he is prepared to make allowances for the features peculiar to the Eastern genius. There is the embodiment of a critical truth of great value in Dr. Louis Gray's remark: "We must therefore consider the *Vasavadatta* from the luxuriant atmosphere of the land of its author, not from the practical point of view of the West. To me, at least, there is true melody in the long, rolling compounds, a sesquipedalian majesty which can never be equalled save in Sanskrit, and the alliterations have a lulling music all their own to ears weary of the blatant discords of vaunted modern progress."

A word on the translation. It was Rossetti that gave the advice to a literary aspirant that he should "Never translate, never translate." But Dr. Gray has been successful in combining accuracy with literary charm and is therefore sure to appeal to general readers as well as special students of the subject. It is a great advantage that the original Sanskrit text is given as an appendix.

Readers in Southern India will be particularly glad to notice that Dr. Gray has given great praise to the valuable commentary of *Vasavadatta* by the distinguished Sanskrit scholar of this Presidency, Pandit R. V. Krishnamachariar. The foot-notes give ample reference to all the literature on the subject and are particularly full with regard to textual readings.

VESTIGES OF OLD MADRAS—A REVIEW, BY ROBERT SEWELL. (REPRINTED FROM THE 'ROYAL ENGINEERING JOURNAL').

Col. Love's recent work on the history of Madras has been ably reviewed here by Mr.

Robert Sewell, late of the Indian Civil Service. The book has been studied from one standpoint, the benefits conferred upon India by British rule. That was however not the aspect which impressed itself most upon us when we ourselves had the pleasure of reading Love's monumental work. It is a valuable collection of original historical records, throwing light on some aspects of life in the early days of the city and it is more a picture of the past than a commentary on the benefits of British rule. The administration of the East India Company can hardly be set up as a model of justice and enlightenment and it is vain to screen ourselves from the numerous instances of misgovernment of which it was undoubtedly guilty and of which there is mention in Col. Love's book itself.

ROBERT BRIDGES, BY DR. WARREN. (OXFORD UNIVERSITY PRESS.) 1s. net.

The pamphlet must now be of peculiar interest to all students of literature in view of the poet's recent appointment to the Laureateship. We have not yet had any adequate analysis of the lyric genius of Robert Bridges, but Dr. Warren has missed a very good opportunity of doing it in this address. We admit the book professes to be only a volume of *Readings from his Poems*, but the connecting passages might very well have been devoted to criticism in preference to biographical and other gossip, some of which at least is very digressive. It may be, we are interested in the little poem of the poet, entitled *Rachel's Garland*, but Dr. Warren need not have taken the trouble of enumerating all the eighteen contributors to the *Garland*, of whom only about three or four can have any claim to be ranked among poets. Nor is it necessary to indulge in elaborate calculation to prove that nearly a generation has passed since Tennyson's death: "Tennyson died just one and twenty years ago. A child born on the day of his death would, this autumn, exactly, have reached his majority. Born four or five years earlier, so that he could just remember Tennyson, he would be to-day five or six-and-twenty. It is the period of a generation."

THE EVOLUTION OF NEW JAPAN, BY J. H. LONGFORD. (CAMBRIDGE UNIVERSITY PRESS.) 1s. net.

This small manual gives us a succinct idea of the growth of the new Eastern nation which has suddenly sprung up into glorious life, and which is the herald of the *Renaissance of the Orient*. The

slow evolution of the Japanese State from the time of its foundation about 660 B.C., through its feudal age when the Emperor was overshadowed by the Shogun and the Samurai and the people divided from their lords by a wide social gulf, down to the accession of the late Emperor, is pictured in an interesting way. With the reign of Mutsu-Hito which began in 1867 A.D., the Shogunate was abolished and national unity completely attained; and Japan entered on that path of social, political and industrial reform which has placed her in the forefront of nations to-day. The great idea underlying the book is that reform came to Japan from within, that her material and moral progress is mainly due to the industry and perseverance of her own sons. The large band of foreign experts whom she enlisted in her service, though they contributed much, could not have done what they did, had it not been for the innate reforming tendencies of the people. Not the least of Japan's achievements is the winning of her right to entry on terms of absolute equality into the comity of the nations. Finally the book enables us to realise what an immense share the late Emperor had in the moulding of his people; and the evolution of New Japan which began with his accession was carried to an end before his demise.

THE MADRAS PRESIDENCY WITH MYSORE, COORG AND THE ASSOCIATED STATES, BY EDGAR THURSTON, C.I.E. (THE CAMBRIDGE UNIVERSITY PRESS.) Rs. 2.

The Trustees of the Cambridge University Press could not have pitched upon a better General Editor than Sir T. H. Holland, K.C.I.E., D.Sc., F.R.S., for the series of 'Provincial Geographies of India' nor a better author for the *Madras Presidency* than Mr. Thurston, formerly the Superintendent of the Madras Museum, but better known as the author of the encyclopædic work on the *Castes and Tribes of Southern India*. The volume before us is a mine of information and many an Indian reader will feel surprised, after reading through the book, that he knows so little of his own province. Mr. Thurston's book is not a textbook on geography. It supplies a long-felt want of a good book giving a succinct, at the same time, a comprehensive account of this Presidency from a variety of aspects. In addition to a clear and full description of the surface-features, climate, fauna, flora, there are special chapters devoted to a consideration of the pre-historic antiquities, archæology, architecture, history,

administration, agriculture, crops, irrigation, industries, sea-fisheries, industrial arts and the Roll of Honour. Every chapter is full of interesting information. The Indian would feel proud when he is told that the Gersoppa Falls "have few rivals in the world in height, volume and beauty," the river hurling itself over a cliff 830 feet high in four cascades called the "Rajab, Roarer, Rocket and La Dame Blanche." Writing of coracles which are used for conveying passengers on rivers the author quotes Bishop Whitehead who says that "it corresponds to my idea of corach of the ancient Britons. It consists of a very large round wicker basket, about eight or nine feet in diameter, covered over with leather and propelled by paddles." How many of us know that the most splendid river-pass in South India is that of Gandikota through whose gorge the Pennar flows? Again it is very few that know that near "Alambadi in Coimbatore is the smoking rock, so named from a rock which throws up a cloud of spray from the middle of the Cauvery river, and that according to our belief 'there is a hole or chasm four palm trees deep, into which the water falls.'" The chapter on *Climate* will amply repay perusal and is profusely illustrated. We have narrated to us here a graphic description of some recent cyclones on the Madras coast. The author had the help of the General Editor—the greatest living authority on Indian Geology—in writing the chapter on the *Geology of Madras Presidency*. Mr. Havell is the contributor of the chapter on *Architecture* and Mr. Romilly of the *Madras Times* has helped in writing the chapter on *Planting Industries*. Mr. J. S. Gamble, C.I.E., F.R.S., of the Indian Forest Department, deals authoritatively with the chapter on *Flora and Forests*. As the Superintendent of the Ethnographic Survey in this Presidency for many years, the author has travelled through every district and obtained an intimate acquaintance with the people and the reader can well recognize Mr. Thurston's hand throughout the book. We open the chapter on *Chief Towns and Villages* and find narrated an appropriate story or legend to add to the human interest of nearly every place mentioned. Local history which is given in connection with many of the towns adds considerably to the value of the book. In the chapter on the *Roll of Honour* the author gives very interesting account not easily accessible to us, of early travellers and pioneers from the 13th century onwards who have left in their published writings materials of great value, of the many Europeans who made the history of this Presi-

dency, of the long line of Agents, Presidents and Governors of Madras commencing with Francis Day, of Hindu religious reformers like Sankara, Ramanaujā, Madhwa, Vallabbacharya and of Thiruvalluvar, the divine soothsayer, of such European divines as Francis Xavier, "whose name is called out even at the present by fishermen in times of storm and danger," of Schwartz, of Abbé Dubois, of Heber, of Corrie, etc., etc. The book is profusely illustrated. We would have been pleased if colour-maps illustrating the relief of the different regions had been added. Every teacher of secondary schools ought to read the book and no school can afford to be without it in the library. In these days of specialised study and of liberty to teachers to draw up their own courses of study we can think of no better book for specialised study in the VI Form than this which gives a clear and comprehensive account of our Presidency.

FATAL FALLACIES, OR SOCIETY UNDER SEARCH-LIGHT. (THE INDIA PRINTING WORKS). Price Re. 1. Postage extra.

Dr. Thakore, the author of this book, is not unknown to our readers. Some time back we had the pleasure of reviewing his previous work—*The Cult of Higher Men*. He is further known to the public through a series of very interesting and original lectures. Dr. Thakore, it would be interesting to note, has travelled over England, the Continent, and South Africa.

Fatal Fallacies is a searching examination of our "social, moral and religious code," and it clearly indicates the author's wide experience of men, their manners and their institutions. It is a book that will create a tremendous furor in the orthodox world, for Dr. Thakore, as is usual with great and original thinkers and critics, strikes an attitude of dissent from the popular doctrines, dogmas and creeds. The style, simple, direct and telling, makes the book a pleasant reading. It is a very thoughtful production, and we feel certain our readers will find much in it useful and instructive. Altogether the book is singularly original and calculated to revolutionize the world of thought; and we strongly recommend it to all our readers.

The book consists of six chapters. In the first chapter the author gives a descriptive account of the growth of society, and, step by step, brings his readers to the point he wishes to establish. Summing up his arguments he tells us that self-interest is the basis of society, and that "without

that self-interest, individuality and nationality would mean nothing and would achieve nothing." The next chapter deals with the aims of society, and it is a very interesting and useful chapter. Here Dr. Thakore shows his great analytic powers and deep philosophic insight, and informs us that the aim of social work is protection of common self-interest, through co-operation and mutual help. He lays a great emphasis on the need for a programme of social activities, as opposed to ideals, and says that "the aim of social evolution is to reduce the number of ideals by multiplying experiences."

In the following two chapters on degeneration, moral and physical, Dr. Thakore discloses the weaknesses of some of our most popular beliefs, and here he is at his best as a critic. The popular doctrines of fate, contentment, renunciation, universal love and universal brotherhood come in for a large share of his satirical onslaught. The present educational, industrial and economical phases of social life fare no better subjected to his critical examination. That the attack is not quite unfounded is made clear by a number of arguments brought to bear upon the problems. The chapter on the Basis of Conduct, will be found to be very interesting. It should be of great value to youths, parents and teachers, and it shows how character is formed.

The chapter on Individualism is a powerful appeal to man for self-thought and self-help. It has a great educational value and as such we would recommend it to all our readers.

Rarely a book like the present one is produced by Indian writers, and there is no doubt that it is one of the best written with a distinct purpose of helping the cause of our country and nation. Every lover of the motherland and every reformer should read Dr. Thakore's books which are peculiarly outspoken, original and direct to the point.

OXFORD ELEMENTARY SCHOOLBOOKS SERIES: (1) TALES OF THE HOMELAND, 1s. 4d. and (2) TALES OF FOREIGN LANDS, 1s. 6d. BY LEWIS MARSH, M. A. (OXFORD UNIVERSITY PRESS).

This series of readers aim at arousing a real and permanent taste for literature in the class-room by following the natural development of literature in the world. In the two books now before us, the primitive literature of young nations is represented by a number of tales, gathered from the folk-lore and mythology of various peoples of the ancient

and of the modern world. By a gradual and almost imperceptible transition, the folk-tale and the myth develop, with the progress of civilization into the heroic and chivalric romance. The object aimed at in the series is to create a natural interest in literature as part of the life, part of the history of a nation and that the correlation of literature with other subjects is likely to widen the range of the pupil's thought and improve his general knowledge.

The many well got-up coloured illustrations which are given in the books are intended to help the pupil to express his thoughts freely.

THE OXFORD STORY READERS: (1) OLD WELSH STORIES: SECOND SERIES, BY MARY C. ELLIS, 3d.

This book contains two interesting stories of Pwyll, Prince of Dyneed and Manawyddan, the son of Llyr.

(2) BONNIE PRINCE CHARLIE, EXTRACTED FROM 'TALES OF A GRANDFATHER,' BY SIR WALTER SCOTT, 6d.

These two readers are well illustrated and will be useful as extra reading books in the Lower Secondary Department.

A PROGRESSIVE COURSE OF PRECIS-WRITING, BY F. E. ROBSON, M. A. (PUBLISHED BY THE OXFORD UNIVERSITY PRESS, 2s.) 6d.

The introduction in this book contains the general explanation of precis-writing, rules, method, instructions given by examining bodies, an official correspondence, with model precis notes on the correspondence, model precis of official correspondence, references to rules illustrated by model precis and notes on precis of minutes of evidence. Part I is intended to give an elementary practice in the condensation of simple narratives and Part II contains exercises, in the form of official correspondence, minutes of evidence, &c., so arranged as to present a gradual increase in difficulty. References to the hints given in the introduction are also occasionally made in footnotes. This book is sure to be of valuable help to all who prepare for examinations in precis-writing.

EVERYBODY'S LIBRARY SERIES NO. 4: TALISMAN OR AMRITASANJIVINI, BY C. R. SRINIVASA AIYANGAR, Rs. 1/2.

This is a complete and literal translation in Tamil of Scott's great work. It is written in colloquial Tamil. The translator aims at giving us an idea of feudal system and chivalry that were in vogue five centuries ago. He sets out with the object of giving us the moral and things in English literature. His aim is to give us the true Scott; and he hopes his work will enable every Tamilian to

speak Tamil freely. We have to assume, however, some patience in the composition of the reader. The same plot has been given in the 'Vivekachintamani' series but under completely Indian environments. The author has used his discretion and fine imagination and brought out a work which is very pleasant to read indeed. The feudal system is still in vogue with us Tamilians in spirit and chivalry is not considered by us to be a mediæval fad. It is a sorry thing for a book like the present one to prove tedious and to fail to keep up our interest in it.

The redeeming feature of the work is that it is written in common talk fashion and enables every one to follow the translator closely. Thus indeed may the translator's object be realised and Tamilians brought to speak Tamil freely. Moreover the translation is so very close and literal that it is unnecessary to read Scott after going through the present work. A series of translations like this should be welcomed by us on the ground that it enables a Tamilian to get an insight into English literature. We only hope the translator would use some discretion and try to relieve the tedium felt by the reader.

(A) WONDERS OF INSECT LIFE: (1) SPIDERS AND SCORPIONS, 6d.; (2) SOME CURIOUS INSECTS, 6d.; (3) BEETLES AND FLIES, 6d.; (4) BEES, WASPS AND ANTS, 6d.; (5) BUTTERFLIES AND MOTHS, 6d.

(B) THE WONDERS OF THE SEA: (1) THE STAR-FISH AND HIS RELATIONS, 6d. (2) THE LOBSTER AND HIS RELATIONS, 6d.

BY F. MARTIN DUNCAN, F.R.M.S. AND F.R.P.S., AND L. T. DUNCAN.

The Oxford University Press must be congratulated for publishing these very interesting and instructive series depicting in minute detail the several insects and fishes treated in the books. These books are intended to cultivate a special taste in Natural Science among boys undergoing courses of studies in the Secondary Schools. Each book contains several charmingly coloured illustrations as well as ordinary ones.

PUBLICATIONS RECEIVED.

Progress of Education in India, 1907-1912.—VI Quinquennial Review, by H. Sharp, C.I.E. Vol. II. Govt. of India Press, Calcutta. Rs. 2.

Report on the Progress of Education in the Panjab for 1912-13. Panjab Govt. Press. 8 as.

A Panjabi Phonetic Reader, by T. G. Bailey, M.A., B.D. London: Hodder and Stoughton. 2s. net.

The Secrets of the Tango, by S. B. Chester. London: Warner Laurie.

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The Islam Series: The Qur'anic Doctrine of Sin, by Rev. W. R. W. Gardner, M.A. 4 as.; The Qur'anic Doctrine of Salvation, by Rev. W. R. W. Gardner, M.A. 4 as.; Sirat-ul-Mustaqim (The Straight Path), by Rev. J. Tackle. 4 as. Madras: C. L. S.

Johnson's Life of Dryden, edited by A. J. F. Collins, M.A. London: Clive. 2s.

An Introduction to Logic, by L. J. Russell, M.A., B.Sc. London: Macmillan. 2s. 6d. net.

Ghulam Jabbar's Renunciation—A Tale of Eastern Bengal, by Rev. W. Goldsack. Madras: C. L. S. 6 as.

Statement of Accounts and Abstracts of Actuarial Reports in respect of Life Assurance Companies doing business in British India. Simla: Govt. Press. Rs. 3-4-0.

Representative Passages from English Literature, by W. H. Hudson. London: Bell. 2s. 6d. net.

The Building of the British Empire, by E. M. Richardson, B.A. London: Bell. 1s. 6d.

Hindu Classical Dictionary, by John Dowson, M.R.A.S. London: Nelson. 2s.

Macaulay's Essay on Clive, edited by A. J. F. Collins, M.A. London: Clive. 1s. 6d.

Conduct and Character, by J. H. Wicksteed. London: Nelson. 1s. 6d. net.

Piers Plowman's Histories, Junior Book VI. London: Philip. 2s.

The High School English Grammar, Part I, by Lt. Tippling, M.A. Bombay: Macmillan.

First Lessons in the History of India, by E. Marsden, B.A., F.R.G.S., M.R.A.S. Bombay: Macmillan.

Macmillan's New English Readers: Primer No. II, 3 as.; Reader No. I, 4 as.; No. II, 6 as.; No. III, 8 as. Bombay: Macmillan.

Charles Kingsley's Heroes, Cambridge: University Press, 1s.

Children's Shakespeare: Scenes from Henry the Fifth. London: Macmillan. 4d.

Test Papers in Elementary Algebra, by C. W. Durrell, M.A. London: Macmillan. 3s. 6d.

Practical Mathematics for Technical Students, Part I, by T. S. Usherwood and C. J. A. Tremble. London: Macmillan. 3s. 6d.

Mental Arithmetic for Juniors, by Samuel Gibson. London: Bell. 1s.

Die Erhebung Preussens Gegen Napoleon, edited by Otto Siepmann. London: Macmillan. 2s. 6d.

The Welding of the Race, 446-1066 A.D., by Rev. John E. W. Wallis, B.A. London: Bell. 1s. net.

From Palmerston to Disraeli, by Ewing Harding, B.A. London: Bell. 1s. net.

Bell's Outdoor and Indoor Experimental Arithmetics: Standard III, 3d.; IV, 3d.; V, 3d.; VI, 4d.; VII, 4d. London: Bell.

Garment Construction in Schools, by Ada Hicks. London: Macmillan. 4s. 6d.

Fatal Fallacies—Society under Searchlight, by Dr. D. P. Thakore. Madras: India Printing Works. Re. 1.

Notes on the Teaching of English, Part II, by W. J. Batchelder. London: Macmillan. 1s. 6d.

Prinz Friedrich von Hamburg, edited by C. F. Bridge, M.A. London: Macmillan. 2s. 6d.

Indian Educational Notes.

MADRAS.

Government Orders.—The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure; nor Rs. 8,750 towards the cost of extensions to the St. Michael's High School, Coimbatore, subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled, the grant will be paid as funds become available.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure nor Rs. 9,150 towards the cost of construction of an upper storey to the west wing of the A.E.L.M. College, Guntur, subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled, the grant will be paid as funds become available.

The Government sanction a grant of Rs. 15,000 to the Municipal Council of Tellicherry towards the cost of the installation of a gas plant in the Brennen College. The Accountant-General is requested to place the amount at the disposal of the Municipal Council. The charge will be met from the special Imperial grant of 23 lakhs for Education provided in the Civil Budget Estimate for 1913-14.

The Government approve the proposal to invite the Principals of each of the first and second-grade colleges, or their nominees, to act as local correspondents of the Students' Advisory Committee. The Committee is requested to take the necessary further action in the matter. They also approve of the suggestion to publish permanently in the *Fort St. George Gazette* standing information regarding the Committee and in one or three issues of the *Gazette* (as the importance of the matter may demand) the Committee's proceedings, circulars and other information of a generally useful character. The Committee should consider whether it would not be sufficient if the standing notice were published in the first issues of each month of the *Gazette*. The Government do not consider that any useful end will be served by publishing the Committee's notices and proceedings in the District *Gazettes*. The Government of India will be addressed.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure nor Rs. 2,770 towards the cost of construction of a kindergarten class-room and dormitory for the Sarah Tucker Training College, Palamcottah, subject to

compliance with the conditions prescribed in the Grant-in-Aid Code. On those conditions being fulfilled the grant will be paid as funds become available.

The Government approve the proposal of the Director of Public Instruction to retain the Bhadrachalam Incomplete Secondary School for a further term of three years from the 1st July 1913 and to employ in it a Telugu Pandit on Rs. 20—2—30 (biennial). They also approve the proposal to abolish the fees in the three lower classes (infant to second).

The deviation statements submitted by the correspondent of the Hindu High School, Ambasamudram, with his letters, Nos. 28 and 32, dated 12th and 18th September 1913, respectively, are approved subject to the remarks of the Chief Engineer. The maximum amount of the grant sanctioned in G. O. No. 241, Educational, dated 20th March 1913, will be raised from Rs. 17,500 to Rs. 20,315.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure nor Rs. 9,500 towards the cost of carrying out certain improvements to the building occupied by the Coronation Secondary School, Srivaikuntam, Tinnevely District, subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure nor Rs. 27,275 towards the cost of construction of additional buildings in connection with the United Free Church Mission Boarding and Training School, Royapuram, Madras, subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Government sanction a grant of Rs. 3,020 to the District Board of Godavari for the provision of furniture and an additional shed for the High School, Amalapur, under the management of the Rajahmundry Taluk Board. The Accountant-General is requested to place the amount at the disposal of the District Board. The charge will be met from the special Imperial grant of 23 lakhs for Education provided in the Civil Budget Estimate for 1913-14.

The maximum amount of the grant sanctioned in G. O. No. 680, Educational, dated 26th July 1912, for the construction of an additional building for the

Wesleyan Mission High School, Negapatam, will be raised from Rs. 7,150 to Rs. 8,805.

The Government have considered the suggestions made by the Presidents of the District Boards of Chingleput, Madura and Trichinopoly, and have issued the following instructions in order to expedite the disbursement of the salaries and capitation allowances of teachers of Board Elementary Schools:—(1) The salaries should be remitted direct to the schools concerned by postal money order from the Taluk Board Office instead of through the Tahsildar. (2) The contingent bills for the money order commission should be drawn in the Taluk Board's Office, instead of being prepared by the Sub-Assistant Inspector of Schools and countersigned by the Assistant Inspector. (3) Capitation allowances should also be remitted by postal money order direct to the headmasters of the schools concerned from the Taluk Board Office.

The Government approve the proposal of the Director of Public Instruction to convert the Muhammadan Elementary School at Mahfuzkhan's Garden, Georgetown, into an Incomplete Secondary School and sanction the employment of the establishment specified in paragraphs 4 and 5 of his letter except the clerk and librarian with effect from 1st March 1914. The pay proposed for the headmaster, namely, Rs. 75—5—100, appears to Government to be excessive; it should be fixed at Rs. 60—4—80 (biennial) per mensem. The pay of the peon will be raised to Rs. 9 per mensem and he will be debarred from claiming grain compensation allowance.

His Excellency the Governor in Council has resolved to develop the Presidency Training School for Mistresses, Madras, into an institution providing for collegiate instruction for girls. The school will be renamed "the Madras College for Women" and arrangements will be made for opening therein a junior intermediate class this year and a senior intermediate class next year, two women teachers with first-class qualifications, recruited in England, being provided for the purpose. The provision for increased and improved accommodation referred to in the Director's letter should be revised to meet the requirements of the institution as thus re-organized and a portion of the Spur Tank, when acquired, will be reserved for any extensions, additional recreation ground or other objects which may be found necessary in the new circumstances. The Director of Public Instruction will be requested to submit without delay definite proposals for giving effect to the above decision.

An Indian Mathematical Prodigy.—The Government of Madras has just made a new departure in awarding a scholarship for mathematical research at Cambridge of £250 a year to Mr. S. Ramanujam,

a clerk in the Madras Port Trust Office, drawing a salary of Rs. 20 a month. Mr. Ramanujam is not a distinguished graduate, but a real mathematical prodigy. He has come into prominence by solving some of the most intricate problems appearing in the 'Trinity College Magazine,' which had baffled many of the mathematicians of Cambridge. It is said that Mr. Neville, the eminent Cambridge professor, brought Mr. Ramanujam's abilities to the notice of the Madras Government. Mr. Ramanujam is a young man of twenty-six, and it is hoped that at Cambridge he will be able to develop original lines of research in astronomical, physical and other mathematical sciences. He leaves for England shortly.

The Young Men's Literary Association.—The first anniversary of this Association was celebrated in the Victoria Hall with the Hon'ble Mr. T.V. Seshagiri Iyer in the chair. The proceedings commenced with the reading of the Annual Report by the Joint Secretary. After the presentation of the report by the Secretary, Mr. P. Seshadri, M.A., Lecturer, Pachaiyappa's College, delivered an interesting lecture on 'Anglo-Indian Poetry.' He said that Anglo-Indian poetry was important to students of English literature in this country. Like the continent of America, India must also take her place in the field for poetic development. Both Anglo-Indians and Indians in the land had been exhibiting some achievements which were full of hope and promise. He gave a brief summary of the work in the most important developments of literature. He referred to the works produced in India by Sir William Jones and John Leyden. The former was, he said, probably greater as a scholar than as a poet, but his odes to Indian divinities were full of sympathy with Hindu religious ideals. It was reserved for Leyden, in his strenuous Indian career, to glorify some of her national scenery. He then referred to the comparatively obscure name of the Eurasian poet, Henry De Rozario of Bengal, who was remembered more as the pioneer of English education than as a poet in that province; but his 'Fakir of Jangheeta' set forth the pathetic story of a Brahmin widow rescued from Sati. As one of the earliest teachers of English in the country his was the privilege of opening the treasures of western culture to the future generations of leaders in Bengal. The speaker next referred to the contribution of Sir Edward Arnold and Rudyard Kipling who were poets of a much higher order. The former had been able to realise the spiritual consciousness of India. He then drew attention to the difficulties of Indians in assimilating a foreign language and referred to the works of Mrs. Sarojini Naidu, Romish Chunder Dutt and Rabindra Nath Tagore. He said in conclusion that this was no place to enter into a discussion of the question of Indians achieving mastery over the English language, but he had no doubt that the children of the land would be equal to the task. The Chairman after passing certain criticisms on Mr. Seshadri's lecture said that such

an Association was necessary to enable young men to have a wider out-look of life. In such Associations they could cultivate a cosmopolitan feeling of sympathy towards a larger and wider circle of mankind. In conclusion he said that the Association had been a success during the year under report and hoped that it would achieve greater success in years to come. He then proposed a vote of thanks to Mr. Seshadri for the interesting lecture that evening and also thanked the members of the Association for giving him an opportunity to be present on the occasion. With a vote of thanks to the Chair and the lecturer, the meeting terminated.

Teachers' College Teachers' Association.—The twenty-fourth anniversary meeting of the Teachers' College Teachers' Association (Senior Branch) was held recently at Saidapet, under the presidency of Mr. H. S. Duncan, Principal of the College, when Mr. K. B. Ramanatha Iyer delivered an interesting lecture on "The Temptations of the Profession" before a large gathering of teachers. The proceedings began with conversation and music after which the regular meeting commenced by the reading of the Annual Report by the Secretary. The Chairman next called upon Mr. Ramanatha Iyer to deliver his address.

Mr. Ramanatha Iyer, in the course of his address, said that Dr. Bain, one of the great psychologists, said that health, wealth, knowledge, virtue, power and dignified positions in life constituted the elements of happiness. He then dwelt at some length on these elements and applied them to the teachers. He laid much stress on the element of virtue and said that the teacher must be above all virtuous and must be a guide to those young men committed to his care. There were other ways of acquiring those elements to become happy, and those ways were not in his opinion fair, and the teacher must be proof against those temptations. Referring to the S. S. L. C. scheme, the lecturer said that the teacher had certain temptations to abuse the responsibilities vested in him, but he would ask them not to be led away by personal considerations, and that the success of the scheme depended very much on them.

Madras Christian College Associated Societies.—A meeting of the Christian College Associated Societies was held recently at the Anderson Hall, when the Hon'ble Sir Harold Stuart occupied the chair and the Hon'ble Rao Bahadur B. N. Sarma delivered the valedictory address on "Universities and the Need for their Extension," which was very interesting and stimulating. There was a large gathering of students, and among others present were the Rev. G. Pittendrigh, Rev. W. Skinner, Rev. Meston, the Hon'ble Rao Bahadur M. Ramachandra Rao, and Mr. O. Kandasawmy Chetty.

The Secretary read the Report of the Societies for the past year, and it revealed that satisfactory

progress had been made in the various activities of the various societies.

The Rev. Mr. Pittendrigh proposed a vote of thanks to the lecturer and the Chairman. The meeting then terminated.

Presentation Convent, Georgetown.—A large gathering of pupils and their friends took place recently in the school buildings under the presidency of His Grace the Archbishop to witness the distribution of honours by Lady Wallis to the successful students for the year 1913. His Grace and the visitors having seated themselves, a short concert of seven items took place. The opening piece was the "Mountaineer" Chorus by the pupils, the second a pianoforte duet by Misses Bantieman and Schemberv, called "Plule de Corell," and this was followed by Swedish Drill, directed by Mr. Hall, the Instructor. Then came an action song, "How'd you like to be a Baby Girl?" and an exhibition of Club Swinging, a vocal duet, "The oars are plashing lightly," and a Parsi song, "Roses Red and Roses White" completed the programme.

The Report was then read by Miss Corvesor, B.A. Prizes were then distributed to the successful students. The President closed the proceedings with an interesting speech and a vote of thanks to Lady Wallis.

Secondary School Teachers' Association, Mayavaram.—On Friday, the 13th instant, a meeting of the above Association was held in the National Secondary School with Mr. K. Seshu Iyer, B.A., L.T., in the chair. Mr. S. Ramasami Iyer, B.A., L.T., delivered a lecture on 'The Teaching of Indian History in Schools.' He began by setting out the objects and aims of teaching history, the importance and usefulness of the subject for all people. He deplored the absence of good text-books on Indian History which he said had yet to be written by Indians in the light of the recent researches in archaeology. He deplored also the utter neglect and lack of interest for the subject displayed alike by the teacher and the taught. He attributed the same to the want of good text-books and the inclusion of the subject in the B group of the S.S.L.C. scheme. He then dwelt upon the syllabuses for the various classes, the method, maps and other appliances necessary for the teaching. A number of speakers followed and it was pointed out that the teaching of present-day history should always precede that of the history of the past, and that the inclusion of Indian History in the B group was an advantage to the teacher as it gave freedom in framing the syllabus.

The Chairman in his own lucid manner explained that the teaching of Indian History could be made sufficiently interesting and useful to the pupils. He said that the teacher need not be hampered by bad text-books, cut and dry syllabuses, and examination worries as the subject has been included in the B group, that he might have a free choice of matter, and should avoid converting history into a table of

mere facts and dates—that Indian History written by Anglo-Indians should be viewed from their own standpoint and not from the Indian standpoint. He concluded by saying that while the glorious deeds of our ancestors should be described to instil a spirit of patriotism in the minds of the pupils, the darker and therefore the less interesting portions of Indian History should not be slurred over, but be made full use of to point out the blunders and show clearly how it was that Indian kings by their own petty jealousies and internecine struggles brought destruction on them whereas the English came by a large empire by their powers of organisation and high sense of patriotism the lack of which in Indians has brought India down to the lowest rank in the scale of nations.

With the usual vote of thanks to the lecturer and the gentleman who was 'At Home' to the members, the meeting was brought to a close.

The second anniversary of the above Association was celebrated with great *clat* in the Municipal High School Hall. Mr. K. B. Ramanatha Iyer, M.A., B.L., L.T., presided. The meeting was well attended by the leading gentlemen of the place and teachers from other centres also. The Secretary read the Annual Report which was a record of steady work. There were 52 members on the rolls. 15 meetings were held during the year and many useful subjects discussed. The Report referred in feeling terms to the irreparable loss sustained by the teaching profession of South India in the demise of Mr. S. Krishnasami Iyer of the Town High School, Kumbakonam. Mr. V. Mahadeva Iyer, B.A., L.T., of the Native High School, Kumbakonam, then delivered an interesting address on 'Teachers' Associations—their Sphere of Activities.' The Chairman rose and in his usual calm and self-contained manner delivered a lengthy and useful speech. After the usual vote of thanks to the Chairman the meeting came to an end when all the guests and visitors and a few friends of the place were treated to a sumptuous dinner.

Pachaiyappa's High School, Conjeevaram.—The sixty-seventh anniversary of the High School and distribution of prizes to the school boys of the High School as well as its branches took place on Saturday, the 7th inst., at the school. Mr. E. P. Walsh, I.C.S., Sub-Collector of Chingleput, presided on the occasion. The school hall was crowded. The Headmaster read the Report which showed steady progress in all directions. The want of more space for accommodation for play-ground and for a hostel was especially mentioned. After the distribution of prizes to the successful boys, the Chairman in very impressive language gave sound advice to teachers by asking them to have firm convictions of their own and draw out such good qualities from the boys left in their charge. The boys were advised to become good citizens as they owe a debt to the general public. At night there was a dramatic performance.

The best actor was awarded a medal, the play was much appreciated and much credit is due to the coaching up of the boys by Mr. V. Venkatachariar, Pleader, who always takes a keen interest in it.

B. G. M. College, Calicut. Prize-distribution.—The prize-distribution of the B. G. M. College took place recently and was presided over by Mr. G. M. Roberts, I. C. S. The Principal read the report of the College, reviewing the 18 months that had passed since the previous occasion. He described the period as one of gathering strength. The growth of the College has been rapid and in certain respects too rapid. The Headmaster then read the report of the High School. Its strength at the end of the period was 638, consisting of 375 Tiyyas, 147 Nayers, 96 Christians, 32 Muhammadans, 19 Brahmans, 14 Pillays, 2 Panchamas and 1 Parsi. After the reports were read, the Rev. J. Mane delivered a learned address on 'Conscience and Will.' Numerous prizes were then distributed by Mrs. Müller. The Principal thanked the several gentlemen of Calicut who offered special prizes. The Chairman in his closing speech congratulated the authorities of the college on their good work during the past year and wished them increased success in future. He gave the boys interesting advice as to honest study and physical exercise. He humorously expressed some personal reminiscences. After the votes of thanks to the Chairman, the audience and Mrs. Müller, and a brief benediction, the meeting dispersed with the singing of "God Save the King."

The Commonwealth.—We are requested to publish the following:—The proprietors of the *Commonwealth*, Adyar, Madras, have decided to issue free bimonthly Supplements dealing with all those topics which contribute to the progress of India. Each of these will contain special articles on the several aspects of the subject of the Supplement which will generally consist of not less than 24 pages of reading matter. The first of these, on "Co-operation and Agriculture," will be issued along with the ordinary number on the 1st of May, to be followed in regular succession by others on "Sanitation and Medical Relief," "Education," "Industries" and the "Annual" with which the *Commonwealth* will close its first year. Needless to say, there will be one more in 1915, to be issued in the first week of March.

As every newspaper reader knows, this is a new development of journalism which has not yet been attempted in India. Every one of these Supplements is intended to give exhaustive information on the question with which it deals and to concentrate attention on the aspects which require modification. They are in fact intended to meet the growing need in this country for full and correct information on every topic of national importance. It is hardly necessary to point out that the success of the enterprise will depend upon the co-operation

of all well wishers of the motherland. We may add that all articles, accepted and published, will be suitably paid for.

Ottapalam High School.—The Anniversary of the Ottapalam High School Literary and other Associations took place recently. Mr W. Rahjohs, I. C. S., presided. Before the appointed time the beautifully decorated hall of the school was well crowded with numerous visitors and students of the school.

Before the proceedings began light refreshments were served and the President took the chair amidst great applause. After music for a short time, the President delivered his introductory speech and then Mr. K. P. Govindan Menon, the General Secretary, read the report on the working of the various Associations. Mr. Ramaswami Aiyar of the Palghat Bar then delivered an instructive lecture on "Student Life." This was followed by the staging of two dramas by students. This was followed by the concluding speech of the President in which he expressed his pleasure at the success of the proceedings and thanked those concerned in the proceedings. The President was then garlanded by the 1st Assistant of the school. The Secretary then called out for cheers to the President and lecturer, and three cheers to Their Imperial Majesties King George V and Queen Mary. The proceedings were a grand success.

Elementary Teachers' Association, Kavali.—The first anniversary of the Association came off on the 7th instant. Early in the morning the teachers from different and distant mofussil villages gathered in the Local Board Secondary School. The newly-constructed hall was set apart for the purpose of exhibition, the hall being very tastefully decorated. The exhibition was opened by the Rev. Badan, the local Missionary, with a comprehensive and instructive speech. The Headmaster of the A.B.M. Secondary School, Kavali, took great pains in explaining the exhibits arranged for the purpose. Many of the exhibits such as geographical, anatomical and drawing charts, besides several chemical apparatus were brought from the local A. B. M. Secondary School. All the charts were explained at length and certain simple experiments on Physics and Chemistry were also performed. After dinner the teachers assembled in the main hall. The meeting began at 3 P.M., with M. R. Ry. K. Rangaswami Aiyangar A.L., B.A., Deputy Magistrate in the chair. After preliminary remarks from the chair the girls of the Local Coronation and Board Schools, Kavali, recited some songs of prayer. The Annual Report was read by Mr. G. Venkatramayya Garu, Secretary of the Association. Then a Kindergarten drama of Harischandra was enacted by the pupils and was appreciated by the audience. A paper in Telugu on "Drawing" was read by Mr. M. Venkateswarlu, a teacher and a leading member of the 'Sree Ganodya Samajam,' Nellore,

for the benefit of the Elementary teachers in various aspects. Miss Bullard then read a paper on 'Education.' The three kinds of education belonging (1) to the body (2) to the mind and (3) to the soul, were explained and she spoke at length about the Industrial education and the training of hand and eye. The methods that are in vogue in America were narrated. M. R. Ry. V. Sayana Sastri Garu, M.A., & L.T., Headmaster, Government Training School, Nellore, lectured in a very sympathetic speech about the sorrowful condition of the Elementary school teacher. He implored that no one should insult the teacher considering the invaluable good he does to the country. The debate whether 'A schoolmaster or a soldier is the redeemer of the country' was discoursed and answered in favour of the teacher. He instructed the Secretary of the Association to move the following resolutions for the benefit of the Association. (1) The introduction of the Provident Fund system among the Elementary schoolmasters in general. (2) That the postal authorities should be instructed to appoint schoolmasters as Branch postmasters. (3) That the teachers may be allowed to take any income which the parents may give in regard to Dasara festivities. In short his speech was very eloquent and impressive and praiseworthy. A small luncheon was arranged afterwards for all the ladies, gentlemen and teachers assembled. *Pan-supari*, Sreegandham and nose-gay of flowers were then distributed among the gentry. The Chairman, in his concluding remarks, laid much stress on the introduction of moral education. He also stated certain responsibilities of school masters. Then the thanks-giving function was made by M. R. Ry. S. Bhavaraha Rao Pantulu, B.A., L.T., the local Sub-Assistant Inspector of Schools. The Chairman of the meeting and the President of the Association and the lecturers were then garlanded in the midst of loud applause. The singing of the National Anthem brought the meeting to a close.

CALCUTTA.

The Sanskrit College.—The annual prize-distribution of the Sanskrit College took place recently at the College premises under the presidency of Sir Ashutosh Mukherji. The building was tastefully decorated with flags and evergreens. The function was attended by a large and brilliant gathering. Before the actual prize-distribution took place, an interesting programme was gone through by the students. A small boy sang a Sanskrit hymn in praise of the Goddess of Learning. A very small boy from the lowest form then came up and garlanded the President, amidst cheers.

Mahamahopadhyaya Dr. Satish Chandra Vidya-bhusan, Principal, next read his annual report. He gave a brief history of the institution, which he said, was started 90 years ago in 1824, during the administration of Lord Amherst, "for the promotion and cultivation of the literature, the religion and laws of the Hindoos." In 1844, the English depart-

ment was opened and towards the middle of the last century, the bifurcation of the institution into school and college departments, took place. The institution at present includes three departments—College, School and Tol. The college is affiliated to the University up to the B. A. standard. The school consists of 10 classes of which the lower 5 are conducted on the vernacular basis. Special courses of Sanskrit study have been so graduated as to enable a regular student obtain a thorough mastery over Sanskrit. Thirty-two students appeared at the last B. A. examination of whom 21 passed, two being placed in the 2nd division with Honours in Sanskrit, one of them occupying the 1st place; two students obtained second class Honours in Philosophy and two passed with distinction. Of the 35 candidates, who appeared at the I. A., 16 passed, seven in the 1st division. At the Matriculation examination, 14 candidates were sent, all of whom passed, 12 in the 1st division. A student from the school secured a scholarship at the M. E. examination. The school possesses a debating club and a boys' circulating library.

After the reading of the report the students gave excellent recitations in Sanskrit, Bengali and English.

After a Bengali hymn, ably rendered by two boys, Pandit Agitnath Nayaratra, the Sanskrit poet of Bengal, recited a Sanskrit poem. The poem was to the effect that Sanskrit was not a dead language, although it was classified among the dead languages. The verses closed with a line that Lord Carmichael was trying to disprove the theory that Sanskrit is a dead language.

The President then distributed the prizes after which he delivered an interesting address.

After the usual vote of thanks the meeting separated.

BOMBAY.

Urdu Teaching in Bombay.—The Government of Bombay have recently published a pamphlet entitled "Problem of Urdu Teaching in Bombay Presidency," which describes certain experimental measures as adopted for testing the genuineness and extent of Mahomedan demand for education through the medium of Urdu and the attitude of Government to that demand. The Government have supplemented the exposition of policy contained in that pamphlet by issuing a second pamphlet entitled "Mahomedan Education—Recent Developments in Bombay Presidency," in which special arrangements made in the past few years to meet Mahomedan educational needs are detailed. The present pamphlet describes the appointment of a special Mahomedan inspecting staff, appointment of a Mahomedan Lady Inspector, experiment of opening a General Central Urdu Girls' School at Poona, foundation of a Mahomedan Boys' School also at Poona after the model of English public schools, proposal to establish Central Urdu Boys' Schools in every

district and to popularise educational service among Urdu teachers by granting them special allowances and the existing system of reserving scholarships for Mahomedans who wish to prosecute studies beyond the primary stage. The pamphlet also contains a chapter devoted to the particular needs of Sindb, which reviews the Government policy of encouraging the indigenous Mulla or Mosque schools to improve themselves and the consummation of that policy in the recent creation of a special Mahomedan inspecting staff. It also describes the measures adopted to popularise Local Board Schools by giving facilities for religious instruction in them out of school hours and sketches a comprehensive scheme for the encouragement of Secondary Education among the Mahomedans of Sindb, chiefly by means of a yearly grant of 133 new scholarships. This scheme contemplates a recurring expenditure of Rs. 95,000 per annum and is now under the consideration of the Government.

Girls' Higher Education in Bombay—An interesting fact regarding the future education of women in Bombay was made known by Dr. Mackichan, the veteran Principal of Wilson College, when speaking at the College Day celebration, presided over by Lord Willingdon. Dr. Mackichan said that his college had 29 women University students, and theirs was the first arts college in Bombay to admit lady students. They had a long roll of women graduates who had subsequently taken medical, science and law degrees. Their admitting women into their colleges had meant no misgivings or inconvenience. The men had benefited by the presence of the ladies, in that it called out their courtesy. There was however a need for a women's college with a staff of women professors. During the last year a number of societies interested in the education of women in this country had drawn up plans for such a college.

Referring to this, His Excellency in his reply said that he fully appreciated that an imperative necessity existed for establishing a women's college in this city. The Government was now awaiting a report from the Director of Public Instruction in the matter and when that was received the question would be considered.

ALLAHABAD.

U. P. Elementary Education League.—We understand that the United Provinces Elementary Education League, which had to suspend its activities for a while on account of the more pressing work in connection with the treatment of Indians in South Africa, is again directing public attention to the importance of primary education and showing the public how they can help themselves until such time as the duty of providing universal mass education is practically recognised by the Government. A few days back it issued leaflets in Urdu and Hindi

comparing India with western countries in the matter of education and exhorting the people to educate their children. A school has now been opened at Agra, under its auspices, through the exertions of Pandit Krishna Prasad Kaul of the Servants of India Society. Although the school has been in existence for one week, we learn that the people of several localities, stimulated by the example set them by one quarter, have come forward with a request that they should be helped in starting similar schools in their mohallas, particularly for the education of children of the depressed classes. This is a gratifying indication that the people are alive not only to the importance of education but to the duty of elevating their less fortunate brethren, and we wish the League every success in its noble work.—*The Leader*.

N. A. S. High School, Meerut.—The prize-distribution of the N. A. S. High School, Meerut, was celebrated with great *clat* and enthusiasm on 28th February at 8 A. M. The magnificent hall of the school was very beautifully decorated with mottoes, bunting and festoons. Almost all the gentry and elite of the city turned out to witness this most important function. The school students were in their gala dresses with white sofas on their heads, and signs of cheerfulness and gaiety were visible on their countenances. The popular Collector Mr. J. R. Pearson was kind enough to grace the meeting with his presence. Mr. A. L. Saunders, C.S.I., *Commissioner*, who had consented to preside and give away the prizes, arrived exactly at 8 and was taken to the dais.

The proceedings began with a prayer followed by a hymn chanted by three students in chorus. Hindi and Sanskrit recitations were the next item. A short drama of the 'the Colonists' was then performed by 16 students belonging to class VII. Every actor did his part well and won applause from all the parts representing 'Mr. Barlow' and the 'Gentlemen' were highly appreciated. Everything was conducted well to the credit of the students and the supervisors. The headmaster of the school then read the report which indicated all round progress. A special feature of the school is the physical training compulsory to all scholars. Side by side with physical training a regular course of religious instruction is imparted to all the classes. After the report being read prizes in the shape of books and medals were given away to deserving students by the worthy President whose final address, indicative of the excellence of the school management and the good manners of the taught, won loud applause from all.

University School of Law.—His Honour Sir James Meeson performed the opening ceremony of the new buildings of the University School of Law, Allahabad. A large number of ladies and gentlemen were present, among whom were Lady Meeson, His Lordship the Chief Justice, the Hon. the Vice-

Chancellor, Sir George Knox, the Principal of the Law College, Sir Promoda Charan Banerji, Mr. Justice Rafiq, the Chief Secretary, the Legal Remembrancer, the Commissioner, Dr. Satish Chandra Banerji, the Hon. Dr. Tej Bahadur Sapru, Nawab Abdul Majid, the Collector, the Director of Public Instruction, Professor Dunn and Mr. R. K. Sorabji.

The Hon. Dr. Sundar Lal, the Vice-Chancellor, asked his Honour to formally open the buildings.

His Honour after a long speech formally declared the buildings open and the Hon. the Vice-Chancellor, and the Chief Justice took his Honour round them.

PUNJAB.

The Islamia High School.—In laying the foundation-stone of Second Islamia High School in Lahore the Lieutenant-Governor Sir Michael O'Dwyer said in the course of a reply to the address presented by the Anjuman-i-Himayat-i-Islam that the policy of the Government in regard to Mahomedan community had been stated so recently and so clearly that it was hardly necessary to repeat it. The Anjuman and other leading Moslem institutions and gentlemen had been asked to assist the Government with advice as to the best method of furthering that policy. It was at the same time pointed out that while it was the policy of the Government to give all reasonable assistance to the Mahomedan communities, especially in secondary and higher education, their advice should be given with due regard to the welfare of the province as a whole. He was confident that their advice would be given in that spirit and that the example of other communities whom better organisation, clearer foresight and ampler resources or greater personal sacrifices had enabled to outstrip theirs in education and benefits that came from it, would inspire them with not a feeling of petty jealousy and invidious criticism but with a healthy and generous desire to emulate them.

Higher College for Chiefs.—The Higher College for the sons of Ruling Chiefs and their Sardars, which is to be established at Delhi, will be thrown open to the selected youths of aristocratic families in British India.

Women's Medical College.—Her Excellency Lady Hardinge laid recently the foundation-stone of the Woman's Medical College at Raisina on a site selected in the new city. Among those present to witness the ceremony were His Excellency the Viceroy, the members of Imperial Legislative Council and a good sprinkling of the local public.

The Maharao of Kotah in asking Lady Hardinge to lay the foundation-stone said that if India had good reasons to be proud of her Viceroys, the women of India had particular reason to be proud

Foreign Notes.

London School of Oriental Studies.—The Education Committee of the London County Council has recommended to the Council a grant of two thousand sterling per annum for the maintenance of a school of Oriental studies at the London Institution. Lord Chelmsford and Sir Henry Cotton were appointed the Council's representatives in the governing body of the school.

of the wives of their Viceroys. Along with other Vicereines Lady Hardinge would be able to look back on the memorable records of achievements—

H. E. Lady Hardinge after a long speech laid the foundation-stone and declared it well and truly laid.

After a vote of thanks was moved by Sir Pardey Lukis, the ceremony concluded

Agra Elementary Education League.—The District Elementary Education League of Agra (consisting of about 50 members), which was started in September last with the esteemed townsman Munshi Narain Prasad Asthana as its President and Pandit Rajaath Kunzru as Secretary, has been doing useful and satisfactory work since its inauguration. Besides collecting funds which is in itself by no means an easy task, particularly in these days of famine and bank failures the League has done considerable propagandist work by way of organising meetings and distributing broadcast tracts in Hindi and Urdu, to educate public opinion on the question of free and compulsory Primary Education. It has opened two free Primary Schools, one in Raja-ki-Mandi and the other in Sultanpore in the suburbs of Agra. The latter one is meant chiefly for the depressed classes of the locality. The school has been started with 19 boys and 11 girls on its roll and has shown an average attendance of 25 during the first few days of its existence. If the prospects of the future are to be judged by the enthusiasm displayed and the keen interest taken by the people of these classes in co-operating with the workers of the League to give a fair start to the school, one cannot be too sanguine of its ultimate success and potentialities for good.

The Educational Exhibition.—An Educational Exhibition was held in the Government High School, Bangalore City, during the last Christmas holidays and the awards made thereat were distributed on the 16th instant in the central hall of the same building, by Mr. H. V. Nanjundayya, M.A., M.L., C.I.E., who presided on the occasion. There was a very full attendance of all the leading state officials and Europeans as well as Indian educationalists. After some Indian music, Mr. V. Subramanya Iyer, Vice-President of the Exhibition Committee, read a lengthy report on the Exhibition.

The Rev. A. R. Fuller, on behalf of the Committee, thanked the Chairman for having presided on the occasion. The usual garlanding of the Chairman and principal visitors followed and the meeting terminated with three cheers for H. H. the Maharaja of Mysore.

The Poet Laureate on Robert Burns.—The lines written by the Poet Laureate for the Greenock (Mother) Burns Club, and published in *The Glasgow Herald*, recall his other and more ambitious poem on the national bard. The work of Mr. Bridges is not yet anything like so well-known as Tennyson's, or even as Alfred Austin's. It is well therefore to remember that as long ago as March, 1902, he wrote in the *Monthly Review* a lengthy address 'To Robert Burns,' consisting of twenty stanzas in one of Burns's favourite metres. It is called 'An Epistle on Instinct,' and is for the most part grave and analytical rather than panegyric in its nature. Mr. Bridges does not attempt to write in Scots, but he achieves a certain facility in following Burns in what cannot be an easy measure to an Englishman. As for the Scot, he has so constantly essayed the style that it has become a second nature to those who write familiar epistles in rhyme north of the Tweed.

The first and last stanzas of the Laureate's poem are as follows:—

Thou art a poet, Robbie Burns,
Master of words and witty turns,
Of lilting songs and merry yarns,
Drinking and kissing;
There's much in all thy small concerns,
But more that's missing.
So pity it is thou knew'st the teen
Of sad remorse; the Might-have-been
Shall not o'ercloud thy merry scene
With vain repentance,
Nor forfeit from thy spirit keen
My friendly sentence.

Imperial Studies in London.—The Senate of the University of London has appointed a Committee to advise upon the reorganisation of the Imperial Studies in London and the creation of a Department of Imperial Studies.

The Committee includes Lord Rosebery, Viscount Bryce, Viscount Hambledon, Sir Krishna Gupta, Sir Harry Johnston, Sir Charles Lucas, Sir Charles Lyall, Sir Theodore Morison and Professor Hearnshaw.

Foreign Students in Berlin.—It is announced that Berlin, the German capital, has made special arrangements for the reception of foreign students. The Bottinger Studienhaus (house of studies) is to be the intellectual centre of the life of the foreign students studying in Berlin. It is under the direction of Professor Paczkowski, and offers a number of courses to foreign students in Berlin. These courses are selected in such a manner as to enable the young foreigner to approach German

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learning and German life from the proper point of view. The various professors are to lecture on German literature, the German Constitution, the people and country of Germany, German history, German politics, and German art. In conjunction with these more advanced lectures, there are to be a number of courses devoted to the study of the German language, and personally conducted excursions will be made to interesting spread in the neighbourhood of Berlin and to objects of general interest in the capital itself. The great characteristic of this new institution is to be the close personal contact which is to be brought about between the foreign students and the various Professors. The new rooms themselves, with their comfortable furniture, attractive pictures, and well appointed refreshment rooms, have all the character of a real home, and this is precisely what the Bottinger Studienhaus is intended to be. Social evenings are to be inaugurated, at which eminent artists are to provide entertainment in the form of music, recitations, etc. In fact, such entertainments have already taken place, and have been received with great enthusiasm.

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We publish in another column the advertisement of **Samuel Heckscher senr., of Hamburg.**

This house has acquired a high reputation for the prompt payments of amounts won by persons here and in all parts of the world.

We would strongly recommend our readers to take particular notice of Mr. Heckscher's announcement and try their luck to win A FORTUNE.

Kaminia Oil.—Elsewhere appears an advertisement of "Kaminia Oil," a bottle of which has been sent us by Mr. Mehta Purushotamji Moolji, 129, China Bazaar Road, Madras. This oil is one of special merits—the fragrance lasting for many days, has made "Kaminia" a household word and the student population welcome it as a good brain cooler and refresher.

SCHOOL AND COLLEGE SPORTING NOTES.

INTER-COLLEGIATE ANNUAL SPORTS.

The following are the results of the competitions in the Sports Finals of the Tinnevely Inter-Collegiate Athletic

Association at which His Excellency distributed the prizes:—

Cricket.—Trophy presented by the Zemindar of Ettiapuram. Won by C. M. S. High School, Palamcottah.

Senior Athletic Competition.—Trophy presented by Mr. L. M. Wynch. Won by C. M. S. High School, Palamcottah.

The Best Senior Athlete's Prize.—Trophy presented by Mr. T. S. Vaikuntam Pillai. Won by St. Xavier's High School, Tuticorin.

The Grigg Memorial Medal.—Won by St. Xavier's High School, Tuticorin.

Junior Athletic Competition.—Trophy presented by Mr. C. G. Spencer. Won by C. M. S. Training School.

The Best Junior Athlete's Prize.—Trophy presented by Mr. S. Arunachalam Pillai. Won by C. M. S. Model School.

Foot-Ball.—Trophy presented by Hindu College. Won by the Hindu College.

Lawn Tennis Singles.—Trophy presented by Mr. A. Sonachalam Pillai. Won by the Hindu College.

Lawn Tennis Doubles.—Trophy presented by Mr. T. S. Vaikuntam Pillai. Won by the Hindu College.

Senior Gymnastics.—Trophy presented by C. M. S. Won by St. Xavier's High School of Tuticorin.

Junior Gymnastics.—Trophy presented by Mr. M. T. Tirumalappa Mudaliar. Won by St. Xavier's High School, Tuticorin.

Tug of War.—Trophy presented by Mr. S. Arunachalam Pillai. Won by C. M. S. High School, Palamcottah.

Hockey.—Trophy presented by Mr. R. G. Grijeve. Won by C. M. S. High School, Palamcottah.

The Square Drill.—The Ashe Memorial trophy. Won by C. M. S. High School, Palamcottah.

Mofussil Trophy.—Presented by the Zemindar of Singampatti. Won by C. M. S. High School, Mignanapuram.

The gentlemen who acted as Judges were:—Messrs. W. F. Nuttall, K. S. Ponnusamy, T. N. Govinda Iyer, C. S. Roland, Ferera, T. S. Vaikuntam Pillai, D. Matheson, W. H. Jukes and Major E. W. Browne.

The Honorary Secretaries who conducted the sports were Messrs. N. M. Saunders and K. Doss Krishniab.

The Educational Review.

We have great pleasure in congratulating

The University
 Seat in the
 Legislative
 Council.

the Rev. George Pittendrigh, M.A., of the Christian College, on his elevation to the Madras Legislative

Council as the representative of the University. It has long been a matter of regret for us that the members of the educational profession have not had the absolute privilege of holding the seat, and we are glad to see that at least on this occasion the election has resulted in according the honour to an educationist. The Rev. George Pittendrigh is eminently worthy of the great responsibility with which he has now been invested, and we have no hesitation in saying the Legislative Council will find in him a very experienced and conscientious adviser on all matters concerning education. As a veteran educationist of thirty years' standing, as an Examiner, Member of the Board of Studies and Fellow of the University for a pretty long time and as a member of the Syndicate and Chairman of the Board of Examiners for several terms, it has been his privilege to acquire varied and valuable experience of educational matters, and as the representative of the University is expected to bestow special attention on educational subjects, we have no doubt he will be an acquisition to the Council. The Rev. George Pittendrigh has again a number of estimable personal qualities which must make his election a matter of gratification to all those who have had the privilege of knowing him. To sober judgment, infinite tact and supreme

commonsense, he unites real sympathy with Indian life and aspirations, and the Indian community need probably have no serious misgivings of his possible attitude in the Legislative Council. An unqualified approval of the position of Government on each question, and a condemnation of all Indian demands are unfortunately the features of the non-official European members of the Legislative Council, but we have reason to believe the Rev. George Pittendrigh will not swell their ranks in matters affecting the welfare and prosperity of the Indian peoples to whom he has offered the ungrudging service of a life-time. He will be an educational 'expert' in the highest sense and will certainly not use the University seat for purposes other than the advancement of educational interests in Southern India. As a speaker he has a fine sense of humour and considerable ease of expression, qualities which are not conspicuous in the local Council and we can confidently look forward to the somewhat dreary and monotonous debates of that body being occasionally enlivened by his felicitous speeches.

The last session of the Madras Legislative Elementary Council saw the discussion of a number of important

questions bearing on the educational progress of this Presidency and there cannot be a more striking piece of evidence of the large attention educational subjects are receiving to-day at the hands of the people and the Government. The Hon. Mr. V. S. Srinivasa Sastri was very well-advised in seeking to get the Government ear-mark a lakh of rupees for the opening of new elementary schools. While appreciating the real advance that Government has been able to make in the last two years, in increasing the number of

elementary schools, there has been a feeling in some quarters that the rise in number might have been greater, but for the utilisation of large parts of the educational grant for other, though allied, purposes. The increasing of the efficiency of the inspecting staff, the construction of buildings for schools that exist already, and the award of grants for the improvement of school equipment are some of the directions in which the allotted money has been spent. There is an inevitable tendency on the part of all bureaucracies to strive for efficiency and better organisation at all cost and it is certainly desirable to draw the attention of Government to the fact that the work of educational expansion must demand equal attention. The Government was not in a position to accept the resolution as it stood—for reasons which were assigned but which were not very clear—but we must feel thankful for its promise that a fairly large amount will be spent on the opening of new schools. The Hon. Mr. V. S. Sastri withdrew the resolution on the strength of this assurance—we have not much faith in the withdrawal of resolutions—but we hope the discussion of the subject has ensured the opening of a large number of new elementary schools during the next official year.

There has always been a clamour on the part of the Mohamedan community for an increase in the number of the Inspectors that are employed for the purposes of Mohamedan Education. We do not wish to say it is not a legitimate claim, but the community may be reminded, the difficulty is not in the work of the inspection of Mohamedan schools, but in the getting of more boys and girls to study at all. It is not

easy to say that the appointment of an additional Mohamedan Inspector of Schools—of whatever grade—will in anyway improve this condition of affairs. The duty of creating a love of education is pre-eminently that of the community and we wish the zeal displayed in asking for Mohamedan Inspectors is directed to the fulfilment of that purpose. There was occasion to notice in a recent number of the *Educational Review*, the great interest which some of the Mohamedan leaders of India have been taking in educational matters, but we are afraid the enthusiasm has not caught the Mohamedans of this Presidency in any appreciable degree. While Northern India is seeing rapid educational progress among the Mohamedans, their brethren in this Presidency have lagged behind considerably, and we hope there will soon be an improvement of the situation. The Hon. Mr. Zinulabuddin's resolution at the last session of the Madras Legislative Council, asking for an Inspector and two Assistant Inspectors had to be withdrawn on the Hon. Mr. Stone's pointing out some difficulties in adopting the scheme, on the sound plea that there was nothing which made it imperative at this juncture, and there was no special purpose which it could subserve. We are tempted to refer to the refreshingly frank manner, in which Sir George Clarke, the former Governor of Bombay, dealt with a similar demand in his province. A Mohamedan deputation wanted the appointment of a number of University Examiners from men of their own faith, and the Governor had to point out it was not Mohamedan *examiners* they stood in need of, but Mohamedan *examinees*! The remark seems to have a direct bearing on the question of the appointment of additional Mohamedan Inspectors.

We wish the Government had shown some sympathetic consideration to the Hon. Mr. K. R. V. Krishna Row's plea for the opening of a new School of Commerce at Cocanada. It was a modest demand for the expenditure of a small sum of 12,000 Rs. a year, for diffusing the benefits of commercial education among the people of the Telugu Districts who have till now had no facilities in the direction. The location of a solitary School of Commerce on the West Coast, at Calicut, is a circumstance on which the Government of an extensive province, embracing forty millions of people, cannot congratulate itself. It has been a matter for regret for people of all shades of opinion in this Presidency, that we are considerably behind the provinces of Bombay and Bengal in the matter of Commercial Education. Our readers are aware that the Government of Bombay has recently established an up-to-date College of Commerce, intended to train up young men in all the advanced methods of the commerce of to-day. And the Government of Bengal is also embarking on a gigantic scheme of a Technological Institute in Calcutta which is to cost several lakhs of Rupees. But the Government of Madras declines to open a new School of Commerce at an expense of twelve thousand rupees! We are really in a benighted presidency and we are not surprised the Hon. Mr. Stone could not even impart anything like the air of certainty to the prospect of an advanced School of Commerce for all Southern India which the Government had in mind. We remember the Government even went to the length of holding a conference of experts on the subject, some years ago, and like several other schemes adumbrated by the Government it has lapsed into a

mysterious silence. We were surprised by some of the ingenious arguments which the Hon. Mr. Stone was forced to bring forward in supporting the position of Government. If Government started technical schools, it was said the technical classes in the School Final Course would not be popular, as if the option of studying a stray commercial subject at the ordinary school could ever be an efficient substitute for a School of Commerce, and as if the average boy of the School Final Course studying an optional commercial subject, would give up his general education on learning a new School of Commerce had been started somewhere near his place. A School of Commerce like the one demanded by the Hon. Mr. K. R. V. Krishna Row could never come into conflict with the commercial classes in the School Final Course. It is meant to train up young men avowedly for the profession of commerce, while the average Secondary School cannot at all be expected to do it in a satisfactory manner.

The Hon. Dr. Nair must be congratulated on the able attempt made by him at the same meeting to improve the prospects of Assistant Professors in Government Colleges by asking for their Provincialisation. In the course of his well-reasoned speech he commented on the anomaly of people who did as valuable work as members of the Indian Educational Service itself, being treated so badly as to be put in the Subordinate Educational Service. The salaries range, as our readers are aware, from 100 to 200 Rs. and some of the really brilliant products of our Universities have to drag their painful way through their tedious course. They are allowed to enter into the

Provincial Service only when their hair is turning gray and when they have lost all their enthusiasm, by this slow process of ill-rewarded drudgery. It is evident this state of things ought not to be allowed to continue any longer, either in justice to the persons concerned, or even in the interests of higher education in the Presidency, and we are glad to notice the Government is not quite unsympathetic to this legitimate aspiration on the part of the Assistant Professors in Government Colleges. But it is very unfortunate that some ill-timed criticism and unconscious opposition should have emanated from the Hon. Mr. Srinivasa Sastri whose undoubted intelligence and wide educational experience, should have prevented him from falling into such an error. The Honourable Member did not show any appreciation of the conditions of educational service when he made the remark that "it was not always easy to say that Assistant Professors should necessarily be paid better than Sub-Assistants." If he is really of opinion, that a Master of Arts, placed in charge of some of the highest branches of University work, should not be paid more than a B.A., L.T. chosen from a Secondary School and placed in charge of some elementary schools, we despair of being able to convince him of the folly of his position. The need for paying special consideration to the superior claims of Assistant Professors is too patent to need any elaborate argument and proof. We will only content ourselves by saying that the Government by taking this step will be removing a long standing grievance of the service, and attract the class of men needed for higher educational work. The direct recruitment of teachers to the Provincial Educational Service would be another step in the right direction.

The last meeting of the Senate of the Madras University was a very lively session. Considerable excitement was roused by three questions: the raising of examination fees; the question of making the study of Indian History, constitutional and economic, compulsory in the Honours Course in History, and the selection of the Principals of some colleges, for the Syndicate's confidence with regard to the admission of School Final students into the Intermediate classes. Such an important subject as the raising of examination fees deserved greater consideration than what the Syndicate had been able to bestow upon it and it is hoped the committee that has been appointed to consider the question will enter into a thorough examination of all its aspects.

It was again not an edifying spectacle to see the subject of the study of Indian History in the Honours Course treated as a party question, and all the European members—official and non-official—arrayed themselves into the opposition. The European Fellows of the University who did not want to see the study of Indian History made a compulsory part of the Advanced History Course in the University, must have ignored some of the most elementary principles of patriotism, and one of the highest ideals of citizenship. The spectacle of the Senate of a University, opposing the compulsory study of the history of the country of which it is a part would not have been possible in any other part of the globe. The most provoking circumstance of the discussion was the attitude taken up by a European Oracle of History—whose credentials for talking on this Resolution, all our laborious research has not been able to discover—who objected to 'private' members pleading for it! Would he make it a rule then, that except those who have to

make their living from a professed knowledge of a particular subject, none has a right to speak upon it, however high his scholarship and however eminent his intellectual attainments?

Disastrous effects must have followed the adoption of the Syndicate's suggestion, that the power of admitting students into colleges, should be vested only with Principals of selected Colleges and we are glad they were averted—at the intervention of the Hon. Mr. Stone—by referring the question to a Committee which is sure to express itself against such an impracticable and undesirable scheme. The Syndicate's selection of the Principals of certain Colleges for this favour, will lead to the drawing of unhealthy distinctions and will imply a kind of mandate that students should join only those colleges and none other. It is sure to deal a severe blow to many colleges, which have not the privilege of their interests being zealously guarded by their champions in the Syndicate.

We are not sure if the Committee appointed to consider the question of the better treatment of vernaculars, has made recommendations of any usefulness. The provision for studying vernaculars or Sanskrit, alternately with parts of some of the branches, is too clumsy and elaborate to meet with any general adoption, and we do not at all expect to see the scheme taken advantage of by our students. The recommendations have made the syllabus of the B. A. course more complex and nothing more can be claimed for them, at least by those who are familiar with the educational aspect of the scheme.

The report on the working of the Hindu College, Tinnevely, during the last four years which

has just been sent to us, is a record of real progress and we are glad to see the college has regained much of its old prestige under the able guidance of its present Principal, Mr. I. Srinivasa Iyer. Progress is evident on all sides. The equipment of the college with an adequate laboratory for science-teaching has been accomplished at a total cost of nearly forty thousand rupees; the library has been considerably improved; and attempts are being made to strengthen the college in other directions. But what is most hopeful about the future is the strengthening of the staff by the addition of four Masters of Arts. Collegiate instruction can never be efficient in any degree without the services of those who have had experience of the higher departments of University culture, and we are glad to see a long-standing want of the college has at least been thus supplied.

We do not appreciate very much the Principal's excursus in the college report into a criticism of the present courses of the University. Instead of commenting on the alleged neglect of Indian vernaculars in the University courses, the Principal might very well make arrangements for the specialisation in vernacular study contemplated by the present course. We should, for instance, like to know what has been done in the college, to encourage their study in the optional groups of the Intermediate classes.

Quite an efficient feature of the college is the care exercised in admitting students into the Intermediate classes and in sending pupils to examinations, a fact which is testified to by the large percentage of passes. It is very rarely indeed that private colleges exercise such restraint in those matters and we have no fear for the efficiency

of the college as long as this condition is guaranteed. The college is eminently worthy of support from the public of that part of the Presidency and we have no doubt the Committee's appeal for funds will meet with a ready response.

The other day were delivered in that historic Pachaiyappa's Hall of many and hallowed memories under the auspices of the University of Madras two lectures on 'Some Aspects of Ancient Indian Polity,' by Mr. K. V. Rangasami Aiyangar, M.A., F.R.H.S., F.R.E.S., Professor of History and Economics in the Maharaja's College at Trivandrum. They were the first to be delivered in connection with the foundation which owes its existence to the enlightened munificence of the late Mr. V. Krishnasami Aiyar whose anxiety to advance the cause of Indian History, Science and Culture was so well-known and is intended to perpetuate the name of that most widely revered son of India, Sir S. Subramania Aiyar in honouring whom every one may feel that he is only honouring himself. The founder, the gentleman in whose name the foundation stands and the lecturer were all worthy sons of the University and the theme that was chosen was worthy of them all.

Mr. Rangasami Aiyangar comes to us with high credentials. He is one of the most distinguished graduates of the local University and has earned a high reputation as an accurate and comprehensive scholar who can hold his own with any in the land. He had a distinguished academic career. He passed his F. A. in the first class in 1896, took a first class in all the three divisions in B.A. in 1899 (History and Economics, English and

Sanskrit) from Pachaiyappa's College, and a first class in M. A. in 1902. He was first in the Presidency in B.A. in History and Economics and carried away the Northwick Prize and the Economics Medal. He stood first in M. A. and became Norton Prizeman. His merits were appreciated by his Professors from the very first, and soon after he took the B. A. Degree he was appointed Chief Lecturer in History in Pachaiyappa's College. Mr. R. S. Lepper of the Trivandrum College was anxious to secure his services for his own institution and took him away to the Land of Charity in 1902 where he has been labouring since with so much benefit to his pupils and to the State and with so much credit to himself. In the University, as a Fellow, as a member of the Board of Studies and as an Examiner, his personality has been felt and has made him a powerful factor. He is still young and has very many years of useful activity which, we trust, he will devote to the cause of his country's education which he holds so dear. With his voracious love of reading, accuracy and thoroughness he might have chosen more lucrative careers, but he has voluntarily chosen the vocation of the teacher for which he has a genuine liking and in which he takes a sincere pleasure.

The lectures were delivered on two consecutive days, 18th and 19th March, to a crowded, representative and appreciative audience, attracted by the lecturer's high reputation. They contained enough matter for half a dozen lectures but had to undergo compression owing to exigencies of time. We are extremely glad to note that these lectures bore unmistakable signs of wide research and accurate scholarship and have deservedly won the approbation and appreciation of scholars. He has set a high ideal which we

hope his successors in the foundation will attempt to keep up. The subject of Indian Polity was a happy choice for nothing Indian is so little understood and is open to so many misconceptions both at the hands of scholars and of the people at large. It was most ably handled in a workmanlike manner and produced an excellent impression on those who were present.

The lecturer began by pointing out the existence and influence of political bias and partisanship and other baneful forces and the consequent prevalence of certain groundless preconceptions into which even men of repute had fallen owing to their failure to properly utilize existing materials and then proceeded to demolish them in a scholarly way. The unchanging character of the East, he said, has been a favourite theme of historians and is accepted by all as a cardinal doctrine, but a closer study of the available sources would completely remove this misconception and show that there was continual progress in political and other conceptions, even in spite of the prevalence of conditions unfavourable to the advance of political and other speculations. This, he established, by an array of quotations from the works on 'Arthasastra' and other literature.

Another notion deserving to be exploded met with a similar fate, viz., that all forms of Government in the East have been "Oriental Despotisms." This error is due to the effort to combine the information contained in the translated portions of Kautilya's 'Arthasastra' with those regarding polity given in the didactic chapters of the Mahabharata and in the canonical law-books from Bauddhayana to Narada which were separated from each other by an interval of over

ten centuries and to assign them all to one age. It would not have arisen had the materials been classified according to epoch and tract and separately studied.

In the same way the lecturer pointed out other misconceptions and showed their untenable character.

A historical study of ancient Indian Polity was at one time not possible owing to the paucity of material to work upon. The same cannot be said now, as we are more in danger of a deluge than a drought owing to the activity of ever so many scholars engaged in this and other allied subjects. Within recent years, a number of treatises bearing on Indian Polity had been unearthed, brought to light and edited by various scholars, and among others he mentioned 'Sukraniti Sara,' 'Nitiprakasika,' Kamandaka's 'Nitisara,' 'Vivadarnava Setu,' 'Nilakanta's Digest,' and 'Kautilya's Arthasastra' as worthy of special attention.

The most sensational work of all is the 'Arthasastra' of Kautilya (or Chanakya as he is more popularly known) who by tradition and legend is assigned to the age of Chandragupta Maurya : and this work formed the basis of the lectures. With considerable skill and scholarship the date of Kautilya is fixed at about the middle of the 4th century B. C., and the references and quotations given in support of this conclusion are bound to carry conviction even into the most sceptic minds. The unity of plan and the uniformity of style suggest the authenticity of its authorship which is confirmed by numerous references to its contents bearing on several topics of wide range and interest. The lecturer classified all available evidence under certain heads and drew the irresistible



PROF. K. V. RANGASAMI AIYANGAR, M.A., F.R.H.S., F.R.E.S.

conclusion that Kautilya must have been the author of the work. With the help of other data he has collected, he demonstrated that the 'Manava Dharma Sastra' in its present form belonged to a later age than the 'Arthashastra' and stood between it and the 'Sukranitisara.' He also proved that Yagnavalkya, the great Smṛithi writer whose work is the final authority in law over most parts of India, was the follower of Kautilya who formed his model. The masterly manner in which all available data were marshalled and utilized is worthy of all praise.

He devoted a considerable portion of space and time to Kautilya to indicate the method that has to be adopted in approaching such subjects and emphasized the need of tabulating the information found on a variety of subjects in the Indian books of law and polity, of classifying them according to author, period and area of prevalence, and also of comparing them with inscriptions wherever possible, to serve as an antidote to many heresies still lingering in the minds of even scholars of reputation and as a vital condition of a successful historical study.

In another place, he took up the position of the classical school of Political Science represented by Sir Henry Maine of Ancient Law fame who describes the great empires of the East as mere tax-collecting institutions, indifferent to the task of legislation and administration of justice, and intent only on securing obedience on certain occasions, and clearly demonstrated the exceedingly slender foundation on which it rested.

All Indian writers have agreed on two points, viz., the natural necessity for the State and its essential features such as the king, ministers, the army, treasure and forts.

Writers on Dharma Sastras justify the existence of Government by the need for an institution of correction to restrain the turbulent and the depraved, and support the theory by recital of stories of the divine creation of sovereignty after a period of confusion and of a compact into which men entered with Manu to serve and support him by contributions in return for protection. It is remarkable that this theory of the social compact, hitherto believed to have been first promulgated in the philosophy of Epicurus and his school, should have been accepted by Kautilya so early as the 4th century B.C. This need for Government it is that justifies the exaltation of the office and power of the king and the horror of anarchy and interregnum.

After telling the audience that there was abundant material for forming an adequate idea of the functions of Government, he came, as a result of the study of such material, to the following conclusions. The king's duty was to be righteous and devoted to the interests of his subjects; to maintain Dharma for the up-keep of social and moral order; to accept as valid and maintain every local usage and custom not inconsistent with his mandates or the interests of the State; to administer justice either in person or by a suitable judicial machinery; to make laws for the subjects, in consultation, when necessary, with Brahmins; and to afford protection of a most comprehensive kind.

A study of Kautilya, the lecturer said, would prove the existence in large cities of a fairly extensive judicial machinery, consisting of different kinds of courts of justice presided over by special officers with defined rules of procedure, while the heads of provinces, districts, circles and villages were vested

with magisterial powers. The judicial work of the higher courts must have been considerably lightened by the practice of having many disputes settled out of court by the leading local men and by the operation of rules intended to prevent unnecessary litigation.

Mr. Rangasami Aiyangar next proceeded to tackle the view held by jurists like Sir Henry Maine that an ancient Indian ruler never issued a single *general* command in the nature of law and that the rules in Dharma Sastras were mere aspirations and not realities—as well as the erroneous statement of Megasthenes that the people had no written laws. "Is it conceivable," he asks, "that in an epoch where definiteness and accuracy were desired even in matters of detail, the making of laws would be left to an irresponsible and unorganised body of people? Do not the 'Jatakas' refer to the reversal, on appeal, of sentences passed by courts and to a specific book of judgments. What meaning could you attach to Kautilya's statement that the Judge who gives a wrong decision should be punished? Are there not explicit statements, in Kalidasa for example, that the king promulgates laws among his people?" These are decidedly conclusive on the point. It followed of course from the nature of the kingship which was an autocracy that the king was in a position either to accept or to repudiate the laws of his predecessors, but as ordinarily he accepted them there grew up in course of time a body of laws—like the 'Edictum Perpetuum' of Rome—thus proving the unreasonableness of the contention of those that deny the existence of a legislative side and even the existence of a body of express State-authorized laws.

The operations of the State appear to have

covered a very wide field as the duty of protection was understood in a very comprehensive sense and among other things embraced all the work which in modern times would be covered by the departments of church and education, poor relief, medical relief, public works, etc. These operations necessitated the maintenance of an elaborate fisc and the evolution of many departments or officers for carrying out several minor functions (sanitation, census, registration). All this entailed heavy expenditure, and as the revenue was inelastic, special stress had to be laid on the possession of great reserves. This again rendered necessary the adoption of several taxes and several questionable means of adding to the State's revenue. It is this aspect of the matter, the lecturer pointed out, which has led to the popular but erroneous view that an Indian State existed merely as a tax-gathering contrivance and that the collection of taxes was regarded as an end in itself and not as a means to an end. This error he attributed to the failure to study the institutions as a whole and realize the prevalent conditions.

The lecturer proceeded to describe an ancient State in modern terminology. The polity, he said, was neither *theocratic* for the mixture of politics and religion was common to all States and intended to secure stability, nor *sacerdotal* for the Brahmins who formed a privileged class were unorganized nor *paternal* for limitation of individual liberty does not by itself constitute paternalism, nor *socialistic* for the aim of the State was not to introduce an improved social order but to act in conformity with the established moral order of the universe, nor *collectivistic* because

a trust deed in favour of the University, by which he transferred money and land to the value of more than seven lakhs of rupees for the promotion and diffusion of scientific and technical education and the cultivation and advancement of Science, pure and applied, amongst his countrymen. This princely gift had, at the time, no parallel in the annals of University education in India, and justly called forth the admiration of all persons, official and non-official, European and Indian alike, who were genuinely interested in the intellectual and material advancement of our people. The gratitude thus evoked was enhanced, when, not many weeks later, Sir Taraknath Palit, on October 8th, 1912, executed a second trust deed in favour of the University by which he transferred money and property worth another seven lakhs of rupees, subject to his life interest therein, for the purpose of aiding and better carrying out the trusts mentioned in the first trust deed. In the interval which elapsed between these two munificent gifts, the Syndicate had applied to the Government of India for financial aid to enable them to carry out the objects of the endowment. The proposal of the Syndicate was extremely moderate and merely involved a request that they might be permitted to apply Rs. 12,000 annually for the maintenance of the laboratory of the College of Science out of a recurring annual grant of Rs. 65,000 which, shortly before the gift of Sir Taraknath Palit, had been sanctioned by the Government of India for the development of University work, and had been announced by His Excellency the Chancellor in his Convocation Address on March 16th, 1912. The proposal of the University in this respect was strongly supported by His Excellency the Governor-in-

Council and was ultimately approved by the Government of India on September 18th, 1912. Let me add here that we were truly thankful for this contribution and felt distinctly encouraged thereby. The true position of affairs, as they stood at the time, may be briefly summarised. The University had funds at its disposal, sufficient for the foundation of two chairs, one for Chemistry and one for Physics, to be maintained out of the income of the endowment created by Sir Taraknath Palit. The University was in return bound, under the terms of the trust deeds accepted by the Senate, to apply at least two-and-a-half lakhs of rupees out of its own funds to construct, on the site where we are now assembled, a suitable building for the proper and adequate equipment of a University College of Science with lecture rooms, libraries, museums, laboratories and workshops. The University had at its disposal the requisite sum of two and a half lakhs of rupees, and had been able to secure from the Government of India a monthly grant of one thousand rupees for the maintenance of the proposed laboratory. But it was plain to the most superficial observer that the princely benefaction of Sir Taraknath Palit, supplemented by the contribution from the University reserve fund and the monthly Government grant was by no means sufficient for the erection and maintenance of a College of Science worthy of the foremost University in India. Additional funds were urgently needed for buildings and equipments as also for additional Chairs. We felt impressed that as the gift of Sir Taraknath Palit included valuable landed property and buildings, it would be a lamentable mistake to miss this splendid opportunity for the establishment of a residential College of Science where the professors

and students might come into the closest personal contact and combine to foster a truly academic spirit. We also felt convinced that as enormous strides had been made, in recent years, in every department of scientific activity, specialists were required and the most improved and refined appliances were indispensable, if research work was to be undertaken and advanced instruction given on an even moderately comprehensive scale. From these points of view, the Syndicate on December 30th, 1912, applied to the Government of India for financial help in aid of the University College of Science, and urged that in view of the unique character of the benefaction of Sir Taraknath Palit, the Government might properly supplement the same by an equal sum. The Syndicate felt that the claims of scientific and technical education were incontestable, and expected that as the Government had expressed their readiness to afford liberal financial assistance in support of educational schemes for the creation of new centres of intellectual activity, they would not be slow to recognise that Calcutta had established a solid claim to preferential treatment by reason of the liberality and munificence of one of its most public-spirited citizens. At the same time, the Syndicate appointed a committee of specialists to draw up the plans for the proposed Laboratory Building, and deputed Dr. Prafullachandra Mitra to report on the question of equipment of a modern Chemical Laboratory in this country, after a personal inspection of the chief laboratories throughout India. The preparation of even the first sketch proved to be a work of much labour and thought, notwithstanding the able and willing assistance rendered by distinguished men like Dr. Prafullachandra Ray, Babu Chandrabhushan Bhaduri and Dr. Paul Bruhl,

GOVERNMENT'S RELUCTANCE TO HELP.

The plans were ready in outline now nearly twelve months ago; but considerable disappointment was in store for the promoters of the scheme. The Government of India did not respond to the request of the University for liberal financial assistance to supplement the gift of Sir Taraknath Palit, and the Syndicate felt constrained to reconsider the situation. The institution of the University College of Science was inevitable; there was no possible escape from the situation; the Senate had solemnly accepted the trust on condition that suitable laboratories would be erected and maintained. The Syndicate consequently proceeded to modify the plans, with a view to start the institution on a more modest scale than what had been originally intended. The alteration of the plans with a view to secure the maximum of efficiency within a limited space was, as might be expected, a task of some nicety, and many weeks elapsed before they could be placed in the hands of an Engineer. In the accomplishment of this part of the work, difficult and laborious as it was, we had fortunately the advantage of the assistance of an experienced member of the Senate, Rai Bahadur Krishnachandra Banerjee who pushed through the work of preparation of the plans and estimates with the maximum speed possible.

During this interval, another notable event had happened in the history of the projected institution, which proved conclusively that the realisation of our ambition to establish a University College of Science had been undertaken in the fulness of time and that its actual accomplishment was well in sight. On August 8th, 1913, Dr. Rashbehary Ghose, who has for many years past rightly occupied

it recognised private property in all kinds of wealth including land. Positively he defined it by calling it by the French name of *Etatisme* which conveys the root principle that every function of the State ought to be subordinated to the need of preserving society and the State. This ideal is remarkable as it carries us back on the one hand to ancient Hellas and on the other hand to the advanced ideas of our own times. He ended his lectures by a peroration in which he emphasised the necessity for system and

method in the collection and study of materials as a necessary condition for the development of historical study on scientific lines. We cannot withhold our praise for the masterly manner in which the whole subject was handled from start to finish and hope that his inspiring example would be fruitful in producing scholars like himself able and willing to devote their talents and time to this most important department of constructive work.

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UNIVERSITY COLLEGE OF SCIENCE—CALCUTTA.

ELOQUENT SPEECH BY SIR A. MOOKERJEE.

The ceremony of laying the foundation-stone of the new University College of Science in Upper Circular Road was performed recently by Sir Asutosh Mookerjee, Vice-Chancellor of the Calcutta University. The large gathering present included the Hon. Mr. P. C. Lyon, Mr. Justice Mullick, Mr. Justice Chowdhuri, Sir G. Bannerjee, Nawab Abdur Rahaman, Mr. L. Palit, Mr. J. N. Das Gupta, Dr. P. C. Roy, Dr. Rashbehary Ghose, the Hon. Dr. D. P. Sarbhadicary, Mr. R. D. Mehta, Professor Mahalanobis, Mr. Heaton, Mr. Peeke and many Fellows of the University.

Sir R. N. Mookerjee presided and before performing the ceremony Sir Asutosh said:—

I do not give expression to mere conven-

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tional politeness when I say that I deem it a high honour to be permitted to lay the foundation-stone of the University College of Science. I sincerely regard it as a high privilege thus to associate myself intimately with the actual establishment of an institution, the project for the foundation of which has been nearest to my heart, ever since it became incumbent upon our University to make provision for the instruction of students under the Indian Universities Act of 1904. If I had been left free to choose the course to be adopted on this auspicious occasion, I would have preferred to have the ceremony performed by His Excellency the Chancellor or His Excellency the Rector, either of whom could have spoken on the paramount need for the establishment of the University College of Science with much greater weight and eloquence than I can ever aspire to do. But I venture to hope that when the buildings we have undertaken to erect are brought to completion, the Senate may enjoy the great good fortune to have the laboratory opened by either the Chancellor or the Rector. Meanwhile, as the choice of the Syndicate has fallen on me, I trust, I may rely upon your indulgence while I remind you briefly of the stages through which we have passed in the fulfilment of our endeavour to establish a University College of Science.

SIR T. PALIT'S FIRST DONATION.

It is now nearly twenty months ago that on June 15th, 1912, Sir Taraknath Palit executed

a pre-eminent position amongst the graduates of this University offered to the Senate a sum of ten lakhs of rupees for the foundation of four Professorships and eight Research Studentships in connection with the University College of Science, as also for the maintenance of its Laboratory in an efficient condition. The Chairs thus founded were to be devoted to four important subjects: Applied Mathematics, Physics, Chemistry and Botany with special reference to Agriculture. We still vividly recollect the real joy and enthusiasm with which we all welcomed this magnificent gift. It came, indeed, at a most opportune moment; it enabled us to reiterate most emphatically our claims to financial assistance from the custodians of the public funds. On the 4th October last, accordingly, the Syndicate again addressed a communication to the Government of India and pressed for liberal and substantial help in aid of the University College of Science, which had now been financed by the munificence of two of our foremost citizens to the extent of twenty-five lakhs of rupees, supplemented by a contribution of three lakhs of rupees from the Reserve Fund of the University formed out of the surplus of examination fees realised from candidates of all grades, in different stations of life, from every corner of this province. The response, however, was slow to come, and the only assurance we received was that when funds were available, the request of the University would be considered along with other claims. The true position now became perfectly plain to even the most optimistic amongst the promoters of the scheme for the foundation of a University College of Science. They fully realised that for the present, at any rate, the University must rely upon its own resources, limited though they be, supple-

mented by the generosity of founders like Sir Taraknath Palit and Dr. Rashbehary Ghose, whose names will be handed down to posterity and will be gratefully mentioned by all true lovers of education from generation to generation, even long after the names of present-day notabilities—euphemistically so styled—shall have passed into inevitable and well-merited oblivion. In these circumstances, the Syndicate and the governing body of the University College of Science decided to take one step forward for the speedy realisation of the long cherished ambition of our illustrious benefactors to promote scientific and technical education amongst our people.

The plans and estimates which had been under preparation and examination for many months were now finally adopted and arrangements were made to place the work of construction of the laboratory building in the hands of a competent and experienced contractor, who undertook to bring the work to completion in nine months. At the same time, a sum of three lakhs of rupees was set apart from the Reserve Fund of the University to be applied to meet the cost of erection of the building. It is consequently not too much to hope that towards the end of this year, if no unforeseen accident happens, the laboratory building will be ready for occupation.

THE PROFESSORS.

Simultaneously with the final approval of the plans and estimates for the laboratory, the Syndicate, at the instance of the governing body of the College of Science, took vigorous steps for the appointment of the first professors and for the selection of the first set of research students. It is a matter for sincere congratulation that we have been able to secure scholars of high distinc-

tion as our first professors, because it is obviously of supreme importance that our work should be initiated under the guidance of not merely the most accomplished but also the most devoted and the most enthusiastic workers available. For the chair of Chemistry founded by Sir Taraknath Palit, we have been able to secure the services of Dr. Prafullachandra Ray who, if I may be allowed to risk a prophecy, will hereafter be named as the first founder and inspirer of a flourishing School of Chemistry at Calcutta; he has expressed his readiness to undertake the onerous duties of his new office with a cordiality which will not surprise his numerous friends who have witnessed many a proof of the true nobility of his nature. For the chair of the Physics created by Sir Taraknath Palit, we have been fortunate enough to secure the services of Mr. C. Venkata Raman, who has greatly distinguished himself and acquired a European fame by his brilliant researches in the domain of Physical Science, assiduously carried on under the most adverse circumstances, amidst the distractions of pressing official duties. I rejoice to think that many of these valuable researches have been carried on in the laboratory of the Indian Association for the cultivation of Science, founded by our late illustrious colleague, Dr. Mohendralal Sircar, who devoted a life-time to the foundation of an institute for the cultivation and advancement of science in this country. I shall fail in my duty if I were to restrain myself in my expression of the genuine admiration I feel for the courage and spirit of self-sacrifice with which Mr. Raman has decided to exchange a lucrative official appointment with attractive prospects, for a University Professorship which I regret to say does not carry even liberal emolu-

ments. This one instance encourages us to entertain the hope that there will be no lack of seekers after truth in the temple of knowledge which it is our ambition to erect. For the chair of Applied Mathematics founded by Dr. Rashbehary Ghose, we have secured the services of Dr. Ganes Prasad, who is now Professor of Mathematics in the Queen's College at Benares and has expressed his readiness to relinquish his present appointment with its attendant prospects of future preferment, for our University Professorship. The presence of Dr. Ganes Prasad amongst us is bound to strengthen our cause. He had varied experience as a distinguished student in our University as also in the Universities of Allahabad and Cambridge and finally as a student under Dr. Felix Klein of Göttingen, the most profound and at the same time the most inspiring of living mathematicians. Dr. Ganes Prasad has furnished ample proof, by his original investigations, of the benefit he has derived from personal contact with Western teachers of the highest eminence. For the Chair of Chemistry founded by Dr. Rashbehary Ghose, we have selected Dr. Prafullachandra Mitra, who had a distinguished career as a student of Chemistry in this University as also the University of Berlin has already given unmistakable evidence of the value of his experience both in the work of instruction of advanced students and in the organisation of laboratories. For the Chair of Physics founded by Dr. Rashbehary Ghose, we have selected one of our most distinguished graduates, Mr. Debendramohan Bose, who subsequently distinguished himself in the University of London and had the advantage of prolonged study and training in the University of Cambridge. But although his attainments are of

a high order, he has consented, in view of the extensive developments of Modern Physics, to spend two years in the Universities of Berlin and Gottingen to equip himself fully for the discharge of his responsible duties. Finally, for the chair of Botany founded by Dr. Rashbehary Ghose, we have selected Mr. Shankar Purushottam Agharkar, a distinguished graduate of the University of Bombay who was for four years Lecturer on Botany and Zoology at the Elphinstone College. Mr. Agharkar, by his published researches both in Botany and in Zoology, has given incontestable evidence of his capacity to profitably undertake advanced work, and with a view to qualify himself adequately for the discharge of his new duties he has consented to pursue his studies in one or more of the Universities of Germany for a term of two years. To each of these Professors, we have arranged to assign, as Research-students, two of our distinguished graduates, some of whom have consented to relinquish lucrative appointments to enable them to pursue higher studies in the College of Science. The brief description I have given of the antecedents and attainments of the six gentlemen nominated as the first Professors of the College of Science will, I venture to hope, satisfy the most fastidious critic that the future of the institution is safe in their hands and that our work has been placed on a solid and sound basis. I trust, I may also be permitted to dwell without impropriety on the gratifying circumstance that of the six Professors, fully one half come from Provinces other than Bengal. We are proud, indeed, to have on our Teaching Body these distinguished representatives of Madras, Bombay and the United Provinces. No stronger testimony is needed to emphasise the cosmopolitan character of

Science, and I fervently hope that although the College of Science is an integral component part of the University of Calcutta, it will be regarded not as a provincial but as an All-India College of Science to which students will flock from every corner of the Indian Empire, attracted by the excellence of the instruction imparted and of the facilities provided for research. I confidently entertain the hope that an institution of this character will not languish, from the lack of supporters, that a few at least will emulate Sir Taraknath Palit and Dr. Rashbehary Ghose, while many will follow their noble examples, though at a respectful distance, and thus enable us to meet the most pressing demands of the hour, namely, equipment for the laboratory and scientific books for the library. I also venture to express the hope that our funds may increase so as to enable us to include in the body of our instructors, if not permanently, at any rate, for short periods, men of Science of real distinction from the great Universities of the West. For we keenly appreciate the high value of the vitalising and inspiring influence which can be exercised on our workers by the sages of Western seats of learning who have consecrated their lives to the noble cause of search after truth and have officiated as high priests in her sacred temple. May it fall to the lot of every worker in the University College of Science to follow the lead of those great teachers and to emulate them in the task of the expansion of the boundaries of the limitless field of knowledge.

CONCLUSION.

I have now described to you, in feeble language the story of the lofty ideals which have animated the promoters of the College of Science, of the munificent gifts by two of

our illustrious countrymen which have rendered the realisation of those ideals possible, and of the truly patriotic personal sacrifices which distinguished Indian scholars and investigators have proved themselves ready to undergo in the search after truth, in the full belief that that which we know is but little; that which we know not is boundless. But although we are constrained to acquiesce in an humble beginning, our hopes are well-founded. We confidently look forward to gradual expansion, to a life of steady growth and uninterrupted activity; for our cause is noble, and we are inspired by the invigorating belief that Science in its ultimate assertions echoes the voice of the living God.

Gentlemen, I shall now, with your permission, lay the foundation stone of the University College of Science, and I call upon you all to bless this great undertaking from the innermost depths of your souls.

CHRISTINA GEORGINA ROSSETTI.

The Second Great Victorian Poetess.

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(Continued from p. 276, Vol. XIX. No. 5.)

II.

FIRST LOVE-SHOCK, THE NEW MOVEMENT,
LYRICAL AND DEVOTIONAL POEMS.

(1848—1861).

IN her childhood, Christina was sprightly and of a lovely appearance. A certain gravity of disposition and a saintly visage characterised her girlhood. She was not fair in appearance and the author of "A Study of British Genius" includes her name under "medium" pigmentation. * Her face was, however, chosen by Dante Gabriel for the representation of Mary in the two great religious pictures "the Girlhood of Mary Virgin" and "Ecce Ancilla Domini." Though in later

* Havelock Ellis, p. 293.

years Christina lost her sprightliness, she always possessed a charm of manner no way inconsistent with her modesty and humility. She was of the ordinary woman's height, with bright eyes, a comely face, an intelligent forehead, and on the whole a striking appearance. Her dress was characterised by a "quakerlike simplicity. Her notion of fashion in dress appears in *Freaks of Fashion*. She was, like Catherine in her *Commonplace*, "a well-bred gentlewoman in all essentials, ... a handsome member of a handsome family." * As elsewhere we are told, she was "like some fairy princess who had come from the sunny South." † The representation of Christina in her youth by James Collinson has been certified by her brother to be "a true likeness of Christina." ‡

This James Collinson, for a time member of the Pre-Raphaelite Brotherhood, "a man of peculiar and shifting tendency" § but "a right-meaning man" ¶ began to love Christina, immediately after his introduction to her, about the year 1848. As he was a Roman Catholic and she a woman of principle she could not think of marrying one of an alien faith and the engagement was dissolved late in 1849 or 1850, striking, as her brother says, "a staggering blow at Christina Rossetti's peace of mind on the very threshold of womanly life and a blow from which she did not fully recover for years." S

Miss Rossetti realised the vanity of all things more intensely now than ever before, the vanity of

"Pleasure that bringeth sorrow at the last," || set her bow in the cloud and sought for "One who is strong." *

The three poems entitled *Three Stages* and written in 1848, 1849, and 1851, form an excellent

* P. 4.

† "Good Words" Dec. 1896.

‡ Poetical Works—Memoir.

§ Kington Parkes, "Painter Poets."

¶ Poetical Works—Memoir.

§ Poetical Works—Memoir.

|| *Vanity of Vanities*.

* I do set my Bow in the Cloud,

autobiographical study of Christina at this period. Though indeed years must pass before a hope of youth is resigned utterly, though she felt she must pull down her palace and uprear a shady hermitage in its place, yet, soon she gave up her thought to shut herself up and dwell alone, unseeking and unsought, and in five years after the terrible shock, she made up her mind thus:

"I may pursue, and yet may not attain,
Athirst and panting all the days I live:
Or seem to hold, yet nerve myself to give
What once I gave, again."

Realising that youth passes like the lightning, that manhood is turbulent, and old age tires, that "life is a weariness from first to last," † that "love, strong as Death, is dead," she sings,
"Oh roses for the flush of youth,
And laurel for the perfect prime;
But pluck an ivy branch for me
Grown old before my time." ‡

"To suffer is more than to do" as she says in her sonnet on *Endurance*, in this life-long suffering, she would be alone, for in *Seeking Rest* she thus sings pathetically:

"How should I share my pain who kept,
My pleasure all my own?
My spring will never come again;
My pretty flowers have blown
For the last time; I can but sit
And think and weep alone."

In her poems of this period we notice a tone of weariness and a growing desire for rest. The pitiful contrast of "she" and "I" in a *Song* of her 18th year emphasised in the last stanza of *How One Chose*, especially in the lines,

"My heart is old before its time"
"I am wearied out"

is very striking. The disappointment of the child, of the girl, and of the woman in *Three*

Moments, with the groping in the dark involved in the words "Not this, Not this," may be compared to her brother's painting "The Question" representing youth, manhood and old age questioning the Sphinx, who by way of answer stares blindly and unrelentingly into space. The scene of disappointment here is relieved by the picture drawn in her *Is and Was*. Some of the lines here clearly reproduce Christina's character at this age of twenty when she wrote them.

"Now she is a noble lady
With calm voice not overloud;
Very courteous in her action,
Yet you think her proud;
Much too haughty to affect;
Too indifferent to direct
Or be angry or suspect;
Doing all from self-respect."

In the year 1848, three "lads of twenty or thereabouts, whose schemes shortly afterwards all but revolutionized art" * started the Pre-Raphaelite Brotherhood to put an end to the then prevalent school of English painting, characterised by "conventional optimism and trivial humour," † and "to study Nature attentively" and "to produce thoroughly good pictures and statues." This new movement in art affected also the literature of the latter years of the Nineteenth Century, by introducing into it a tone of mediævalism. Apart from the literary achievements of the more important members of the Brotherhood, the short-lived association of distinguished boys is directly remembered by the short-lived journal "The Germ" or "Art and Poetry" which went no further than four immortal numbers.

Christina Rossetti though not an active member of the Brotherhood, contributed verses to the abovesaid journal. Her admiration of the Brotherhood is seen in her lines on *The P. R. B.*

* J. Knight. "Great Writers—Rossetti" p. 24.
† A. C. Benson. "Rossetti," p. 19-20.

where she calls it "the great P. R. B.," and in her dirge on the movement where she contentedly says,

"So rivers merge in the perpetual sea;
So luscious fruit must fall when over-ripe;
And so the consummated P. R. B."

Christina's contribution to "The Germ" consisted of seven pieces, "several of which," says Mr. Gosse, "are still among the very finest of her lyrics." ‡ To the first number she sent *Dream Land* and *An End*, under the pseudonym "Ellen Alleyne" given by Dante Gabriel. To the second she gave *A Pause of Thought*, the *Song* beginning "Oh roses for the flush of youth" and *A Testimony*. In the third appeared *Repining* and *Sweet Death*. The very selection of these poems for the journal unfolds Christina's mind in a peculiar manner. In the first number, we are led to a dream land where

"She sleeps a charmed sleep;"
"Sleep that no pain shall wake;"

and to the grave of Love where we hear,

"He is gone away."

In the second number, we are at a mental conflict of a foolish one, alike unfit for healthy joy and salutary pain." From this we pass to that *Song* of self-renunciation and the *Testimony* that

"Of high and low, of great and small
Vanity is the lot of all."

and so

"Our labour is not good; our best
Hopes fade; our heart is stayed on lies."

In the third number was published *Repining*, modelled, we are told, on Parnell's "Hermit" to some extent, though differing from it in the purpose,* teaching as it does the blessing that may be found even in solitude sometimes, while the other vindicates the justice of Providence. It narrates the story

‡ Encyc. Brit. Vol. 32, p. 298.
* See Poetical Works, p. 460.

of the solitary woman who, tired of her long occupation at "spinning the weary thread away" in loneliness, sought for a companion in an evil moment and was shown Death instead of love wherever she went with the disguised friend, until at last she cried,

"O Lord, it is enough....."

My heart's prayer putteth me to shame;
Let me return to whence I came.
Thou who for love's sake didst reprove,
Forgive me for the sake of Love."

To crown all appeared in the third number that fine poem on *Sweet Death*. Since all things die, she says,

"Thou, O Lord, our Rest and Ease,
Art better far than these."

In Christina's poems of this period we trace a soul which distinctly attempts to push out the body, the exterior garb of the soul, from the spiritual see-saw of life and to assert the victory of the soul. Shakespeare thus sang to the soul,

"Then, soul, live thou upon thy servant's loss
And let that pine to aggravate thy store;
Buy terms divine in selling hours of dross;
Within be fed, without be rich no more." *

And Christina realising that,

"We build our houses on the sand
Comely withoutside and within;
But when the winds and rains begin
To beat on them, they cannot stand:
They perish, quickly overthrown,
Loose from the very basement stone." *

and that how often if we offer our heart to God we must also trample earthly affection under foot, † tries to liberate her soul from the bonds of earth and make it look up to the eternal home not made of human hands. This is clear from the characteristic mottoes she chose for her

* 146th sonnet.
* A Testimony.

† Notes to Mr. Shields for the decoration of the chapel at Eaton Hall. See Bell, p. 109.

† Have Patience.
‡ Song 1849.

Three Nuns. "This heart sighs, and I know not wherefore. It may be sighing for love, but to me it says not so. Answer me, my heart, wherefore sighest thou? It answers: I want God—I sigh for Jesus." The first Nun, we may observe, says,

"Once I thought that joy was best,
Now I only care for rest,"

while the second Nun vindicates her innocence, as plainly and as light-heartedly as does Pompilia before the Roman Court in "The Ring and the Book," and exclaims,

"Oh sweet is death, for I am weak
And weary, and it giveth rest."

And the third Nun is sure that

"When Earth shall pass away with all
Her pride and pomp of sin,
The city builded without hands
Shall safely shut me in."

The *Lowest Room* contains the very essence of Christina's view of human life. In it she draws an excellent distinction between the "golden days"

"When time ran golden sand"
and these "days of dross" when life is aimless;
and she says that though

"A bursting bubble is our life"
yet

"Our life is given us as a blank
Ourselves must make it blest or curst."
The stanza about "old Homer's sting" is an excellent piece of criticism, but more excellent than that is the intelligent question of the younger sister,

"Homer, though greater than his Gods,
With rough-hewn virtues was sufficed
And rough-hewn men: but what are such
To us who learn of Christ?"

The elder sister's conclusion is very sensible,

"Some must be second and not first:
All cannot be the first of all;"

"So now in patience I possess
My soul year after tedious year,
Content to take the lowest place,
The place assigned me here;"

since

"Many last be first."

From House to Home, describing "the severance of a human heart from the joys and the loves of earth, to centre in the joys and the loves of heaven,"* is written in the metre and to some extent in the language of Tennyson's "Palace of Art." But Christina's poem transcends Tennyson's, in its ideal conception and fine description. While the soul in "The Palace of Art" still shows some leaning to its abode, whither it "may return," the soul in Christina's poem is determined never more to face this "house of lies;" while legends and distinguished authors find a place in the "Palace of Art" of Tennyson, Christina's new abode of the soul is filled with devout servants of God, rising up in one company bound by the tie of love towards Heaven.

This masterpiece of Christina and her four little pieces, *The Love of Christ which Passeth Knowledge, A Shadow of Dorothea*, in which God shows the human soul the way to Heaven and bids the soul choose for itself between the "home on earth" and the Home of God, and tells it plainly

"You cannot keep these things and have me too;"

By the Sea representing the sea as moaning "shut out from heaven," and the *New Year's Eve* (1858) calling out to God,

"Watch with me Jesus, in my loneliness"
.....
"I, Love, am Thine: Thou, Lord my God,
art mine,"

bear evidence, says Mr. William Rossetti, "of a

* Poetical Works, p. 461.

spirit sorely wrung, and clinging for dear life to a hope not of this world."*

Christina's feeling of utter disappointment and consequent self-reproach is seen in *L. E. L.*, written on the model of Mrs. Browning's "L. E. L.'s Last Question" and in the same metre, but with no possible application to Letitia Elizabeth Landon, where she says,

"All love, are loved, save only I;"

and the angel consoles her:

"Wait, and thou shalt prove
True best is last, true life is born of death,
O thou, heart-broken for a little love,"

and in *Ash Wednesday* where she turns to God and asks

"Jesus, do I love Thee?"

and seeing the vast gulf between Him, sitting in glory amidst angels, and herself, "a barren spot, in thy fruitful lot," she in humility prays,

"Kind Lord, be mindful of me,
Love me and make me love Thee."

In *Goblin Market* which "has always held a certain primacy amid Christina's poems,"† she strives to show how eternal life is to be obtained by overcoming desires and how desires breeding new desires bring Death on man. Satan tempted Eve, and Adam in the blindness of his love yielded to Eve, and we know the result. But here a woman yields to the tempting goblins and her sister saves her and the poet truly says:

"There is no friend like a sister
In calm or stormy weather;"

Two sisters Laura and Lizzie saw on a day the goblins, little merchant-men hideous in appearance and manners, selling fruits "like honey to the throat, but poison in the blood" and getting them eaten by women, who for lack of a second taste pined away. Laura said,

"We must not look at goblin men,
We must not buy their fruits:"

but when these hideous tempters came near, she yielded, while Lizzie ran away. Laura partook of the harmful fruits, buying them "with a golden curl."* When she got home she was upbraided by Lizzie, who told her how Jearie did the same thing and "pined and pined away." But Laura quite joyously promised to get the fruits for Lizzie also. The way she commends the fruits here reminds us of Eve's commending "the fruit of that forbidden tree" to Adam. But unfortunately the next day, Lizzie alone heard the Goblin sound and not Laura. Like a traveller who saw "false waves in desert drouth," Laura pined away in the longing for a second taste of the melons. Seeing Laura sick and "knocking at death's door," Lizzie ventured before the goblins and after a long struggle, got off with her face smeared with the juices. It is noteworthy Lizzie stood "like a lily in a flood" before the goblins, while Laura "stretched her gleaming neck" "like a lily from the beck." Laura, the story says,

"Kissed and kissed and kissed her"

and recovered from her sickness. By a sister's unselfish kindness and self-sacrifice, came "life out of death;" and Laura was ever grateful to her sister and would in later years tell her children

"How her sister stood
In deadly peril to do her good,
And win the fiery antidote."

The fiery antidote of desire is self-sacrifice. Desire overcome conquers death. Self-sacrifice shows the way to Eternal life. This is the teaching of "Goblin Market." Christina's love for her sister to whom she first inscribed this poem, is seen from her simple description of the sisters sleeping together,

* Poetical Works, p. 461.

† Poetical Works, p. 459.

* This incident is beautifully designed by Dante Gabriel in the Volume of 1852.

"Golden head by golden head,*
Like two pigeons in one nest
Folded in each other's wings,
.....
Cheek to cheek and breast to breast
Locked together in one nest ;"

and of the plain home life of the sisters, who, with mutual love, did all the household duties and "talked as modest maidens should ;" The Bishop of Durham, writing to Mr. W. M. Rossetti, after Christina's death, said, "It happened that last Christmas day at our evening gathering I chose "Goblin Market" to read and that wonderful story of the power of a sister's love in the temptations of life touched all hearts." † "It is just a fairy story," Christina averred, "yet one can discern that it implies. . . . that to succumb to a temptation makes one a victim to that same continuous temptation ; that the remedy does not always lie with oneself ; and that a stronger and more righteous will may prove of avail to restore one's lost estate." ‡

Christina's love for humanity and her life-long pleasure in working for the suffering poor is visible in her picture of *A Royal Princess*. This princess, "deckt with jewels, gilded, drest," disgusted yet with the vanity and aloofness, the necessary accompaniments of aristocracy, realises the equality that underlies all human beings, both masters and servants, who have the same flesh and blood and hearts and souls ; and she at once takes up her gold and gems, goes to the suffering people saying.

"They shall take all to buy them bread, take
all I have to give ;
I, if I perish, perish ; they to-day shall eat
and live ;"

We may specially notice in this poem the lines,

* Very exquisitely designed by Dante Rossetti in the Volume of 1862.

† See Bell, p. 179.

‡ See Bell, p. 207.

"Men are clamouring, women, children,
clamouring to be fed ;
Men like famished dogs are howling in the
streets for bread."

This low condition of the people in England then is vigorously denounced in Tennyson's "Locksley Hall—Sixty Years After,"

"There among the glooming alleys Progress
halts on palsied feet.
Crime and hunger cast our maidens by the
thousand on the street
There the master scrimps his haggard sempstress of her daily bread,
There a single sordid attic holds the living and
the dead.
There the smouldering fire of fever creeps across
the rotted floor
And the crowded couch of incest in the warrens
of the poor."

and is cursed by Christina herself in *The Face of the Deep* where she writes :

"Alas England full of luxuries and thronged
by stunted poor, whose merchants are princes and
whose dealings crooked, whose packed storehouses
stand amid bare homes, whose gorgeous array
has rags for neighbours ! From a canker in our
gold and silver, from a moth in our garments,
from blasted crops, from dwindling substance,
from righteous retribution abasing us among the
nations, good Lord, deliver us. Amen."

This poem of intense feeling for the poor came in appropriately two years after it was written (1861) and found a place in "Poems : an Offering to Lancashire" got up "for the relief of distress in the cotton districts" during the cotton famine consequent on the civil war in the United States.*

Christina had a special genius for symbolism. She was lavish in her praises of the Rose, her special flower, "fairer far" than the "sweet jessamine," "tender lily," "fair clematis" and

* Poetical Works, p. 401.

"tall meadowsweet flowers."* She regarded the rose as the symbol of love, as she considered the lily to be the symbol of faith. In her study of nature in some of the poems of this period, we find a reflection of her own inward melancholy. For instance in a poem on *May* she writes,

"Sweet life is dead
And I am left alone ;"

and in *Another Spring* (1857) she says that in it there is a

"Stinging comment on my past
That all my past results in "if."

This melancholic tone appears also in her few poems which afford a study of the seasons, as *Bitter for Sweet*, *Withering*, the two poems *Seasons* written in 1853, *The First Spring Day* (1855), *May*, *Winter : My Secret*, *Autumn*, and *Winter Rain*. Her *Twilight Calm* and *A Summer Wish* are not cheerful. This subjective eye for nature is also seen in her interpretation of the tall mountains of Italy as a symbol of want of sympathy and in her story of the "self-haunted spider" in *Time Flies*. Of symbolism, Christina herself writes in one place, "symbolism affords a fascinating study : wholesome so long as it amounts to aspiration and research ; unwholesome when it degenerates into a pastime," and her symbolism was never unwholesome and fulfilled its purpose of engrossing, satisfying, arresting incautious souls "unwatchful and unprayerful lest they enter into temptation."

The weariness which Christina felt her life now to be is reflected in her poems of this period, e. g. *How One Chose*, *Seeking Rest*, *Three Moments*, the *Song* of the woman "hidden in the flowers," who "saw her guardian spread His wings above her rest." Though now she loves retirement, she is not dead to feelings of love, as is clear from *Annie*, *A Dirge* and the *Song* beginning

"It is not for her even brow"

* *Queen Rose*.

where she says that a woman is to be loved for three things :

- (1) "Tell-tale eyes that smile and weep
As frankly as they wake and sleep ;"
- (2) "the blush that comes
Straight from the heart within ;"
- and (3) "the simple voice
Whose love makes many hearts rejoice."

The tone of contentment in *Books in the Running Brooks* contrasts forcibly with the vigorous poem *To what Purpose is this Waste?* where she says,

"We want the faith that hath not seen
Indeed, but hath believed His truth

Who witnessed that His work was good," and curses Earth, which is now "so fair and lifted up," but which shall stand "exposed and valued at its worth," when the Son of Man shall come. *Next of Kin* levels up all social distinctions, for when we wake from this dream of life we are all equal. The true nature of life is described in *What ?* (1853).

"A bitter dream to wake from,
But oh how pleasant while we dream !
A poisoned fount to take from,
But oh how sweet the stream !"

The desire for sweet rest exhibited in *Holy Innocents*, *Buried* and *The Bourne* is best expressed in *Dream Love* a very excellent description of "young Love." Everything lost (*Two Parted*), still the human being is not free, while all other creation is free (*Ballad*). In *From the Antique* the poet says,

"It's a weary life, it is,.....
Doubly blank in a woman's lot,"

and shows readiness for self-annihilation. This feeling runs through *Long Looked For*, *Listening*, and the sonnet *Dead before Death*. The dream beside Euphrates of the humiliation of the crocodile affords an excellent study of life. *To the End* expressing the yearning of the soul for Heaven is far inferior to Dante Rossetti's early

achievement "The Blessed Damozel" both in expression and in conception. The ray of hope left in "The Blessed Damozel," despite the uncertainty of time, is absent in *To the End* where the uncertainty of space suggests some insuperable difficulties to the soul, though it determines to strive with increased prayer. *Shut Out* stands in marked contrast to this poem, in that the hope too is absent here, the soul being shut out of heaven, a wall raised between it and Heaven. The mental restlessness of the poet after finding expression for a while in the mystic poems *By the Water* and *A Chilly Night* gets a short relief in the poem *Let Patience Have Her Perfect Work*. The three poems *A Bed of Forget-me-nots*, *Look on This Picture and on This*, based on an incident in Maturin's "Women," and *Gone Before* strike on the chord of Heavenly Love,

"Love steadfast as a fixed star
Tender as doves with nestlings are,
More large than time, more strong than death,

The dramatic poem of *The Hour and the Ghost* shows that earthly love is not easy to shake off. The two lines in *Light Love*.

"Sick with the pain of hope deferred
And sore with wounded pride,"

are very characteristic; the fragment *Downcast* may be contrasted with *A Wish* of 1853 in which we find a tone of mirth, absent in *Downcast*.

"I, only I

Am changed and sad and cold, while in my soul
The very fountain of delight is dry."

Love from the North shows the unexpected end of earthly love and the poem styled *Introspective* shows the determination necessary to attain that Love which lies "beyond the sea of death." A *Peal of Bells* with its horror-striking end of the feast so well begun, *In the Round Tower at Jhansi*, written at the time of the Indian Mutiny, with its tragic scene very forcefully conceived, *Day-Dreams*, in which the "soul's dear soul" sits

groping in the dark and "gazing, gazing still" and *A Nightmare* of a friend in Ghostland, early found and early lost, all these toll the parting knell of earthly love. It is curious how Christina could, in the state of mind traced in the foregoing pages and with the pen which wrote the "lines in *Memory*

"My heart dies inch by inch; the time grows old

Grows old in which I grieve,"

have penned the pleasant lines in *A Birthday*,

"My heart is gladder than all these
Because my love is come to me."

This must be Divine Love, and the poem seems to be an outburst of exuberant joy at a vision of that Love which is infinite, Love that begetteth Love, Love that hangs this earth in space, Love that rears the great, that tends the small, breaks off the yoke, breaks down the wall, accepteth all, fulfilleth all.* The same sentiments are expressed in *My Friend* and in *Maude Olare*.

Up-Hill, *At Home* and *To-day and To-morrow* written on one day, 29th June, 1858, called by her brother "a red-letter day in Christina's poetic calendar" are very excellent. In *Up-Hill* we are reminded of the fine lines of Matthew Arnold in "Rugby Chapel" describing "the course of life of mortal men on the earth." This poem of Christina's refers not to those many who go on through life

"Striving blindly, achieving nothing,"

but to those few that, with a definite aim, walk strenuously up-hill "to a clear-purposed goal." *At Home* and *To-day and To-morrow* reveal a despondent mind. In *Convent Threshold* called by her brother Dante a "splendid piece of feminine ascetic passion," a perfect picture of the real contrast of Earth and Heaven is drawn minutely and studiously, in the form of a dream. The last lines of the poem are noteworthy:

* *What Good Shall my Life do me?*

"Look up, rise up: for far above
Our palms are grown, our place is set
There we shall meet as once we met,
And love with old familiar love."

In the *Mirage* she says that everything in life and life itself is a dream and in *Yet a Little While* that there is but "one neighbourhood at peace and full—death's solitude." In *Cousin Kate* true love is spurned and false love is rewarded on this earth. In *Sister Maude*, since *Maude* "lurked to spy and peer," she should hide with "death and sin." The pathetic poem of *Noble Sisters* similarly ends with a curse. In *No, Thank you John*, a dislike for permanent attachment in this world is exhibited, as also in *Promises like Piecrust*, a good plea for individual freedom,

"Let us hold the die uncast,
Free to come as free to go."

The Lambs of Grasmere (1860) evokes pity, as also *Wife to Husband*. Sincere consolation breathes through *Better So* and *Our Widowed Queen*, the latter an intensely sympathetic poem penned at the demise of the Prince Consort on 14th Dec. 1861. Her lines in *What Good Shall my Life do me?*

"Lead lives of Love, that others who
Behold your lives may kindle too
With Love and cast their lots with you,"
express the summum bonum of life.

Love is the bond of man to man, and Love is also the bond of man to God. This is testified to in her devotional poems of this period.

In *I do Set my Bow in the Cloud* a subtle distinction is drawn between the earthly father and the Heavenly Father. *Death is Swallowed up in Victory* shows that everything on earth is decay, which is Death, and that the love we thirst for is to be found in "that mansion mortals cannot see" and is to be gained by trust in God. To attain this end, we must in patience wait, for God himself waits for our fruits, as is shown in *Symbols* written in 1849, a few days before *Have Patience*, and in *For Advent*. A *Christmas Carol*

tells us that Christ is the best messenger through whom we may render our thanks to God,

"He knows the road, for this the way
He travelled once, as on this day."

In *The Watchers* and *The Three Enemies* Christina works up the conditions of salvation. The Holy Cross, the Guardian Angel, and Love of humanity watch one through life and hedge one in from sorrow, while one's three enemies are the flesh, the world, and the Devil. To attain salvation one must beware of these enemies and trust in the Lord who is "wise and just." In *Eye Hath not Seen* Christina says,

"If but the thought of Paradise
Gives joy on earth,
What shall it be to enter there
Through second birth?"

The choice still rests with us and if we do not choose that which we know to be best, the Love of Christ, He still strives to win us, for He draws us all to Him.* The yearning for Heaven's Home and for love that cannot waste, love which we now sow in tears, but then shall reap at the harvest where the reapers shall be angels, is the keynote of the mystic piece entitled *Moonshine* and the poems *I Look for the Lord*, *The Heart knoweth its own Bitterness*, *A Harvest*, and *The Eleventh Hour*. In *Sleep at Sea* we hear the preacher saying:

"Vanity is the end
Of all their ways."

The rose, the poppy, the lily, the violet and even the grass and lichen and moss and weed speak of the Love of Heaven. † The angel in *Ye Have Forgotten the Exhortation* exhorts the soul to kneel and pray. As the poet says in *There Remaineth therefore a Rest*,

"Fear and hope and chastening rod
Urge us on the narrow way."

* *A Bruised Reed shall He not Break.*

† *Consider the Lilies of the Field.*

But if the narrow way is crossed, the beauties of Paradise are before us, the beauties of which she dreams in *Paradise* very minutely, full of all things that

"Eye hath not seen, nor ear hath heard,
Nor heart conceived."

To this region looks up the soul in *I will Lift up Mine Eyes unto the Hills*; but it is unable to attain that region, the shadow of things below still preventing the soul's upward flight. And yet the soul rests in Jesus and expects one day to reach Heaven through love of Jesus. In *Unforgotten* we see how in the short span of time, "the dalliance-space of empty man," shadows darken heart and face. With such impediments the soul pants after God and asks for the heart of Christ, the heart of Saints and the heart of an Angel to pass successfully through this long life.* Intense religious feeling characterises the poems *A Martyr*, *Now they Desire* and *A Christmas Carol*. Just as the star led the Magi to the birth place of Jesus, so the love of Jesus leads man to Heaven. After this the Judgment, evidently prompted by a sense of the waning of early youth and of melancholy at present and prospective conditions of life,† displays the same longing for heaven we have noticed in her other poems. Here she says,

"I stand all creation's gazing-stock,
Exposed and comfortless on every side,
.....
Redeem me from the irrevocable past."

The End of the Year (1856) is despondent in tone, as are her two poems of 1857, *A Better Resurrection* and *The Heart Knoweth its own Bitterness*. In the latter, however, she gets some hope, reflected again in her *New Year's Eve* of 1853; and she advises herself and others to "watch and pray"‡ in *The Knell of the Year* (1860). This poem and *Advent* show the high-water

mark of Christina's devotional work. The fine contrast of the Christian and the Jew in *Christian and Jew* conveys a practical lesson. In *A Burden* we find the nest of love, the nest where the "Souls that wrestled now are nestled."* In the year 1861 she wrote four excellent religious poems, *Easter Even*, *The Offering of the New Law*, *By the Waters of Babylon* and *Within the Veil*. In *The Offering of the New Law* we find the same determination noticed in *Advent* already, in the line

"Except He bless I let not go,"

a determination which goes hand in hand with complete humility of heart. In *Within the Veil* there is a note of assurance very promising indeed,

"Her rose a blossom richly grown,
My rose a bud not fully blown
But sure one day to be mine own."

Thus by the end of 1861 Christina feels an assurance of attaining some day to Eternal Life, by her practical observance of Love to man and Love to God.

N. K. VENKATESAN.

(To be continued.)

THE FLOATING NEEDLE AND ITS PLACE IN EXPERIMENTS ON MAGNETISM.

IN magnetism, it makes a great difference, whether a magnetic needle is short or long. This marks the difference between frictional electricity and statical magnetism. In statical or frictional electricity, it is quite easy to separate and isolate the two opposite charges of electricity, while in magnetism, it has not yet been found possible to isolate the two kinds of magnetism. Many experiments which could easily be performed in frictional electricity are not found possible in the

* Only Believe.

kindred branch of magnetism. For example, in frictional electricity, the two induced charges on an unelectrified conductor, when under the inductive influence of an electrified body, can be isolated, and shown to be of opposite kind, but equal magnitude. In magnetism, it is not possible to isolate the two induced charges of magnetism. Again, whenever a body is electrified, it has only one of the two charges, but when a body is magnetised, it has both the kinds of magnetism. When the behaviour of a single pole has to be studied, the presence of the neighbouring pole often introduces difficulties and complications. Although it is quite impossible to altogether get rid of one pole of a magnet, yet we can so minimise the effect of the other pole that we are practically dealing with only one pole. This is done by making the magnetic needle as long as possible. Each end of a long magnetised needle can in many experiments be regarded as a single pole as the other pole is so far away that its effect which depends on the inverse square of the distance is very small.

But if the long magnetised needle can be used in experiments on magnetism, where the behaviour of a single pole has to be studied, we must secure for it a good freedom of motion. The ways in which freedom of motion is secured are:—

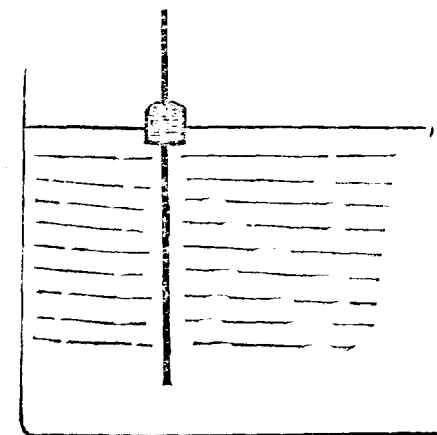
(1) By suspending the magnetic needle delicately by means of a silk fibre free from twist; and

(2) by pivoting the needle in a frictionless manner.

A third way of securing freedom of motion to the magnetic needle is to float the needle by attaching it to a piece of cork. For many of the experiments now to be

described, a floating cork, with a fairly long magnetic needle attached to it, so that the needle stands vertical, is used.

Demonstration of the lines of force of a magnetic field. The two ways in which the lines of force of a magnetic field are shown are:—



(1) By the distribution of iron filings; and
(2) by mapping the directions of a delicately suspended magnetic needle when placed in various positions.

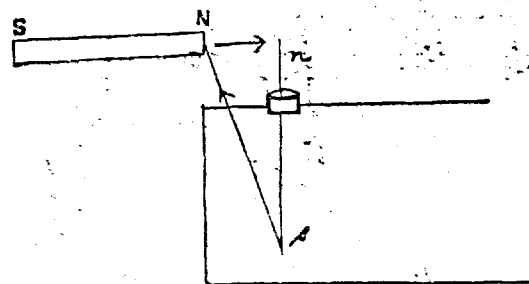
A line of magnetic force is a curve, the tangent to which at each point of its length represents the direction of the magnetic force at the point. There are two ways in which the direction of the magnetic force is pictured to the mind. The direction of the magnetic force at a point can be taken either as the direction in which an isolated free north pole placed at the point is driven or as the direction along which a freely suspended magnetic needle 'SN' would place itself at the point. As it is not possible to isolate the north or south pole, the former part of the definition of the direction of a magnetic force is more theoretical than practical. But we can approximate to a single north pole, if we use a long vertical needle mounted on a floating cork.

* How Long?

† "Poetical Works," p. 472.

‡ cf. Dante Rossetti, "The Choice" 2nd Sonnet.

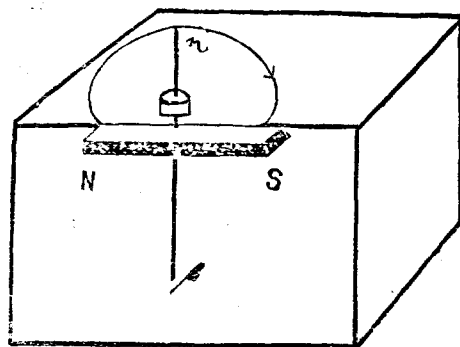
The magnet SN and the top end n of the magnetic needle are arranged to be in the same horizontal plane. The effect of N on the magnetic needle is a force of repulsion on n and a force of attraction on s . Owing to the greater distance of the south pole, which will indeed be much greater if ns is much longer, the effect on s will be much smaller than that on n . Again Nn is horizontal and Ns is almost vertical. The only motion which a floating cork is capable of showing is a horizontal motion and so far as the horizontal motion of the cork is concerned, the nearly vertical force of N on s has practically no effect. A big glass basin is taken nearly full of water. A bar magnet is so arranged that it is in the same horizontal plane as the top end of the needle. Then as the cork is placed in various positions on the surface of water and let go, it is seen to move along the various lines of force passing through the various starting points. (Of course, the line of force is traced not by the cork, but by the top end of the needle and all the lines of force that can be shown by this arrangement are the lines of force of the bar magnet in the same horizontal plane as the magnet itself.) As a demonstration of a line of force to a large class or audience it is very easy to perform and very striking in its effect. The lines of force due to a horse-shoe magnet can be shown in just the same manner. The



ments are (1) the magnet and the end of the magnetic needle should be in the same horizontal plane; (2) the needle should be fairly long, about six inches in length at least and may be longer, if only the depth of the basin would allow; (3) the magnetic needle should have been strongly magnetised; (4) the effects are particularly good, if the bar or horse-shoe magnet were very strong. Otherwise the full lines of force may not be traced, especially in the case of the more bulging lines of force; (5) care should be taken that the cork does not deviate from the line of force, by currents of air in the room; (6) if the cork touches the sides of the vessel, the capillary force on the surface of water is so great, compared with the magnetic forces, as to stop the motion of the cork. So, a large glass basin should be used, so that, at least the less bulging lines of force may not happen to intersect the sides of the glass basin.

Modifications of the above experiment.

(1) The needle may be inverted so that the bottom end, viz., the south pole may now be the top end. Then the cork will move along the same line of force, but in the opposite direction thus proving that a line of force is a curve along which in one direction the north pole is urged and along which in



the opposite direction the south pole would be driven.

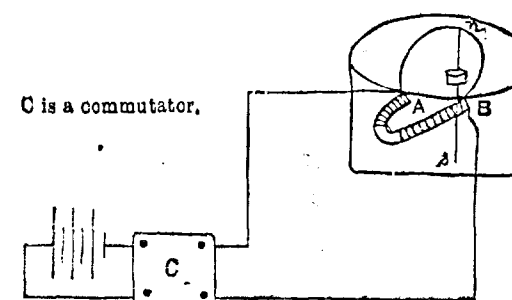
(2) The magnet may be turned over and thus the position of the poles interchanged. The cork will then retrace the same line of force in the opposite direction.

(3) The magnet may be placed underneath so that it is in the same horizontal plane as the bottom end of the needle. This experiment has a further interest attached to it, in that it shows that glass and water are practically transparent to magnetism. With the vertically mounted floating needle a still more striking demonstration experiment can be shown, if we use an electromagnet. The advantages of using an electromagnet are:—

(1) It is considerably stronger than a permanent magnet.

(2) The polarity of the electromagnet can be changed instantaneously by introducing a commutator in the circuit of the magnetising current. In that case it is interesting to see the cork moving from one end A, to another end B of the electromagnet and then again from B to A, by a switch of the commutator, and so on.

The electromagnet with the commutator and current presents a very striking analogy



to an engine which can be made to do work. Evidently work is done by the cork in tracing a line of force, as it has to overcome

the resistance of the fluid to its motion. Provided the electromagnet is sufficiently strong, it is possible to construct, perhaps, a boat of cork, with a long vertically mounted magnet or even an electromagnet. Then, perhaps, people seated in the boat may be carried over from one end A to another end B of the big electromagnet. By a switch of the commutator, the same boat may now be made to carry over the people back from B to A. This may then be called a magnetic ship. Only, most of the lines of force are curved not straight, so that the voyage is rather round about.

T. S. KRISHNASWAMI.

THE ELEMENTARY MATHEMATICS UNDER THE S. S. L. C. SYSTEM.

THE School Final Examination has been in our midst for the last four years, and it is time for us to take stock of the various subjects included in the curricula.

We shall examine "the place of Elementary Mathematics in the Scheme, its scope and the need for defining it."

We have reasons and grounds to believe that very many Mathematics teachers are over-doing and over-working the subject, go very much beyond what is expected of boys, or what is intended by the S. S. L. C. Board. So we want an authoritative enunciation of its scope and object to be made public and the view taken by the Teachers' Associations of various districts to be formulated and communicated to the S. S. L. C. Board to enable them to take such action as they may deem fit to give the subject a definite and well-marked shape.

In the old High School Mathematics, in the days of the Matriculation Examination and before the advent of the School Final, there were three separate subjects, and three separate examinations, to wit, Arithmetic, Algebra, and Geometry. Though Arithmetic and Algebra were allied subjects, twins born of the same mother, they were regarded as distinct entities, as separate watertight compartments with no intercommunication, and therefore each needed exclusive treatment. There existed an extraordinary prejudice against the use in Arithmetic of symbols which were considered as the inalienable property of Algebra. It took very many years for us to bring about the desired union of this unholy divorce, to understand that Arithmetic is specialised Algebra, that Algebra is generalised Arithmetic, that in the one symbols have *specific* value, in the other *any* value, that by treating both together immense time and labour can be saved, that mathematical truths can be embodied as in a nut-shell in neat and handy forms, and that therefore they must run *pari passu* on parallel lines from the first stage of Mathematics.

A really scientific teaching of Arithmetic is impossible so long as this estrangement continued. Till three years ago, when questions in Arithmetic were given, very many teachers disallowed symbols, treated such attempts as sacrilegious, X's and Y's being anathema as far as arithmetic was concerned. With many, the question was not whether the sums worked easier, whether time and labour was saved, whether the answers were right, but whether the methods adopted were arithmetical, their souls must be vexed perforce by barbarous and cumbersome manipulation.

The other subject was Euclid and all had

to learn Euclidean method and in the same order—any change in the order or method was considered heretical. No practical or experimental aspect of it was overtaken note of by the teachers or the taught and less said about the use of instruments, the better: and what looked like a triangle answered the purpose of a circle.

We know very well what strain the Matriculation mathematics produced on our young men, what terror was caused by the Arithmetic question paper of Mr. Morren of Christian College fame, who was for more than ten years Chairman of the Mathematics Board of our University, how these half-page-sized sums paralysed the students, how many of them left their study in despair, and how they were victimised by the red-tapism of these examiners, who thought that the students have been created to suit their convenience and likes, who did not think that they were, where they were because of students.

There had been all along in continental countries a loud cry raised by Mathematical Associations against the tyranny of the old system of teaching, the too theoretical study of the subject, all clamoured for improvement and change, for additions and subtractions in the course of the mathematical study of Secondary Schools.

Hence we see how the Elementary Mathematics has come to exist in its present shape; a few marked features of the subject are (1) it is all embracing, it covers the whole range of mathematics needed for a citizen to know, (2) it is practical and experimental, (3) the question papers contain alternative sums to suit individual likes and tastes.

Elementary Mathematics includes (a) Arithmetic pure and applied, that is, the old

Matriculation arithmetic with certain essential changes, the incubus of a cube root is gone, questions on stock should be simple and direct—a caution against Mr. Morren's sums—new chapters of practical import have been added and special emphasis is laid on them—the metric system, decimalization of money, approximation in all its forms. Questions must be such as would appeal to the imagination of the students, as might be useful to them in after-life. The whole scheme rebels against Arithmetic being for Arithmetic's own sake with no relation to things of the work-a-day world, sums of the following type are no longer tolerated. "If a man walks 25 miles an hour, what distance will he cover in five days?" Evidently the teacher wants his pupil to multiply 25 by 24, and the result by 5—"Why not you do so?" we ask. The teacher clucks and says: "Let the boy find out that there are 24 hours to a day; to ask to multiply 25 by 24, and the product by 5 would be a dry bone. I want to give the sum life and clothe it in a problem. I want to be practical." This is practicality with a vengeance, but the boy goes wrong, why you know? This sinless, unsophisticated young Adam is wondering whether a man can *walk* 25 miles an hour and whether he can do so for 5 days without food, rest and sleep; he loses the question because he was all the while in wonder-land. The very same question is put now so as to suit the modern taste and progress: "If a man motors at an average of 25 miles an hour, and if he be on his car on the average 5 hours a day, and if he travels for 24 days, what distance would he cover?"

(b) E. M. includes Algebra which now goes by the name of the symbolic Arithmetic (so far as E. M. is concerned). It is corre-

lated with Arithmetic from the 1st stage to help the student to ascend from the particular to the general, from the concrete to the abstract, to give them a training in inductive and deductive reasoning. Ponderous resolutions, unwieldy G.C.M.S. brain-confusing identities are no longer in requisition, the aim being to take the pupils to the solution of questions by means of equations.

(c) Graphical solution on square paper of ready reckoners, of arithmetical problems, on time and work, time and distance, of cisterns and pipes, etc., of square roots of numbers, and of algebraic equations, statistical graphs. This is more or less an attempt to bring down from its higher regions, vector mathematics where lines represent magnitudes.

(d) Geometry—not of course theoretical, but practical and experimental with the use of the instruments—not up to the 3rd book of Euclid as of old, but of all books, including the 6th book of proportion, the finding of areas of similar figures. The Geometry portion includes scale-drawing, the solutions of questions in heights and distance, the practical knowledge of the subject is more than what many of us knew as F. A. students.

(e) Mensuration of (1) plane figures, rectilinear and curvilinear including the field-book and surveying, (2) all right solids from prism to sphere, a practical knowledge of solid Geometry, such as is expected of Engineering College students.

Thus Elementary Mathematics is all we have enumerated; it is all comprehensive and all embracing. From the old to the new, the change is this, the Matriculation mathematics was more academic and had not much bearing on practical life; it was valued for the mental training it gave, it was a regular gymnastics in deductive reasoning. In the

new, no abstract reasoning, no logical theory is needed but a practical utilitarian knowledge of *all* mathematics of every day life. So the subject without losing much of its depth, has gained considerably in width and circumference and covers all work of space, number, symbol and graph, but it is said to be of an elementary type; here comes the rub and we now and again see here the cloven foot of the specialists and experts.

When the Matriculation mathematics ruled the day, six periods were allotted to the teaching of the subject, two for Arithmetic, two for Algebra and two for Geometry; but the present day High School mathematics, because of its misnomer "Elementary," is, in many High Schools, disposed of with four periods a week; but knowing the subject what it is, we plead for at least a period a day to enable the teacher to cover the whole ground, and to equip the students to meet the idiosyncrasy of the examiners.

We will be within our mark if we point out how the subject in the hands of these experts, the teachers and the examiners has developed from the size of a coconut into that of a bloated pumpkin. The S. S. L. C. Board simply enumerates on broad lines the scope of the subject and leaves the elaboration of the syllabus to individual schools to be developed.

The view of the Board is very democratic and cosmopolitan; it wants to lay down no hard and fast rules, no guidance by the nose. No slavish adherence to any hide-bound, stereotyped, may-bob system. It wants to allow free, unrestrained growth, to give the teachers a sort of local self-government. This is a very desirable attempt in the right direction,

No institution in this world, however beneficent in its inception and conception, escapes being prostituted when it gets into a groove, when handled by specialists whose rule is "myself first and the rest nowhere."

We had ample opportunities to compare the syllabuses in Elementary Mathematics of various schools worked out by the men best fitted for the same, and we are sorry to find that these faddists have elaborated these with a vengeance as to make any layman cry out "save me from my expert friends." Time forbids our citing instances to show how the Elementary Mathematics syllabus in its well-developed form, becomes a formidable looking document, to go through which would tax the energy of even the cleverest boy in a school.

We have known what the old pressure over our boys meant and we do find that under the present changed system, our boys are again overworked in this line, in spite of the strict injunction of the authorities to avoid giving heavy home lesson in mathematics.

As the subject belongs to A group, all pupils must of necessity take to it and the old strain is not so visible now, as there is neither pass nor "fail" under the School Final System and as there is also a supplementary course open for each subject.

Before we conclude, we will show how the examiners in Elementary Mathematics appointed by the S. S. L. C. Board have been riding their hobbies, what conundrums they propose, what Johnsonian methods they adopt of defining a pinch of snuff or of kicking a man down, how they, being experts, go beyond the syllabus they give, how they sacrifice directness and pointedness to their

being practical, how they sometimes overreach themselves leaving the boys woefully behind.

We take only two questions from the papers set in Elementary Mathematics in 1912 and 1913.—In question VI of the paper of 1912.

"A figure was given representing a crane, the arm of which can be completely revolved around the central post. The bottom of the weight (W) can be made to touch the ground and can also be raised 20 ft. above the ground. The distance of the vertical rope from the central post is 12 ft. and the radius of the central post is 6 in. If the weight is moved into every possible position by the crane, find the area of the surface over which a point on the bottom of the weight and vertically under the rope, moves."

In the first place, the students from the mofussil got puzzled and did not know what a crane was. Perhaps they confounded it with a bird they had seen. Only a few years ago, there was this question in the Composition paper in the Matriculation examination: "Write not exceeding two pages an essay on any 'pastime or recreation.'" Do you know how our boys interpreted this; it is either "past-time or re-creation" that is either "future creation or past creation" of the world; at once they scribbled away about the days of Manu or of Adam and Eve in Eden. Is not this very ingenious? Such is their credulity and innocence. A question in Geography, some years ago, was asked about "Copra;" very many boys wrote thus "Copra is a misprint for cobra that is the devils' mistake;" having corrected the examiner they wrote about the snake-worship of Southern India. Knowing as we

do how the Hindu mind works, we need not be surprised how in this question of the "Crane," they got confounded. In this sum two obstacles stood in their way. (1) They asked themselves whether the arm was always at a constant angle to the central post. (2) They had not imagination enough to understand the meaning of the latter part of the question—what the examiner wanted was to find the area of the curved surface of a cylinder that is the value of $2\pi r.h.$, this the pupils could easily understand, but for the Johnsonian method.

Question IX of 1913. This time the examiner seizes a bottle; in this there is the right frustrum of a cone; it has staggered our boys. The Elementary Mathematics syllabus given by the S. S. L. C. Board speaks only of "right circular cone," but of no frustrum; but it was suggested to us by the specialists that it is only an easy transition from a cone to its right frustrum, we ask "is not an oblique frustrum the next door neighbour of the right frustrum?" There is no end to this kind of argument. It is the old story over again of the beggar who, from the door-way soon got installed in the very kitchen of the house, claimed kinship with the ladies so much so that the Grihasta soon got ejected out of the house. What may be pastime to the jackal is death struggle to the crab.

N. P. KRISHNASWAMI IYER.

THE PLACE OF GRAMMAR IN THE TEACHING OF ENGLISH.

BY MR. BEPIN B. BANERJI, B.A., B.T.

GRAMMAR had a glorious past. But like falling bodies it has been acquiring inertia in its fall. Our purpose is to determine its present position.

Grammar is a science and science is systematised knowledge. Growth of a system always depends on concrete facts. These facts are studied in all their bearings and are finally woven into what is called generalisation which is another name for science. The science of grammar has also had to pass through these stages to justify its name. The mutual relations of words in the expressions of thought have been studied and certain general conceptions have been arrived at; and these conceptions have been dubbed into nouns, pronouns, verbs and a host of other conventionalities.

In the evolution of language the order is, therefore, first thought, then expression or speech, and lastly grammar. The first sentence that the child utters is not the result of his grammatical skill: he had a mental picture of certain things—certain things have been seen by him in mind; and these he heard associated with certain sounds or words. And the repetition of these sounds by others took such a firm hold on his mind, that when he became physically competent to speak, he simply translated his mental picture into those sounds with which he gradually familiarised himself. Language is thus nothing but seeing in mind and expressing what is thus seen—in sounds or words. Mental pictures and sounds are, therefore, two essential factors in the learning of a language.

When language by this mental process of

growth grows into volume and strength, then the necessity of a system is felt. Various examples are then grouped under certain convenient heads for further reference and guidance and these generalisations are then embodied in a science called grammar.

Now if this be the manner of growth of the science of grammar, as in fact of all sciences, the question arises how grammar is to be taught. Should the boys be given the rules that have been formed from the particular cases or be allowed an insight into the process of formation of those rules? Or in other words should they be taught the rules or the principles, i.e., should they be taught inductively or deductively? The only answer to these questions is this that since grammar is a science, it should be taught as a science; and the only method of science-teaching is that we should go from the particular to the general. And this method, in spite of its reverse being followed which consists in giving the pupil the rule, is yet proved by experience to be the right one. "Rule-teaching," says H. Spencer, "is now condemned as imparting a mere empirical knowledge—as producing an appearance of understanding without the reality. To give the net product of enquiry without the enquiry that leads to it, is found to be both enervating and inefficient. "Easy come, easy go" is a saying as applicable to knowledge as to wealth.....A rule-taught youth is at sea when beyond his rules, while a youth instructed in principles solves a new case as readily as an old one."

But unfortunately for the boys, and unfortunately for the teachers, the method that has ruled the teaching of this subject in the schools until comparatively recent times is to give some clear-cut rules and somehow to hammer this nonsensical stuff into the brain

of the poor shivering child with threats and punishments, and then to require him to apply this verbal knowledge for the mastery of a language, as if language, like Minerva, grew out of the head of grammar. Language according to this method is to move along the narrow groove carved out for it by grammar and its flow is stopped when the latter sends forth her fiat "Thus far shalt thou go, and no farther." The formation of language is not a synthetic process grown out of the patches of grammatical lore. No man has ever mastered it by a process of dovetailing his nouns and verbs, his prepositions and conjunctions into sentences and paragraphs in obedience to the rules of syntax and concord, analysis and propriety. It has developed itself before the rules of grammar have been manufactured—in fact grammar has taken advantage of this development to frame its own rules. To ignore this is to ignore a natural order of things and to court the proverbial error of putting the cart before the horse.

But the error, it will be said, has been sanctified by usage. It had its origin in the twilight of human thought and had coursed down almost unhampered over a considerable expanse of time. With certain reservations this is, no doubt, a fact. No body can question the unrivalled supremacy which grammar exercised over the minds of men before the spirit of enquiry and scientific research found a healthy support in that up-heaval of learning known as the Renaissance. It gave a rude shock to grammar as it gave to so many other studies and ever since it has been falling and falling with gradually accelerated velocity. The Renaissance was no respecter of sanctity—it was rather its pleasure to trample

under its big foot all tradition and authority and to bring everything under a severe process of "dissecting, analysing and tabulating." In fact we find as early as in the period of Jesuit supremacy that the reaction has already set in. And Sachini says that "in reading an author, examples of grammatical difficulties will be more easily observed in connection with the context, and will make more impression on the mind, than if they are taught in an abstract way by themselves." While Ascham says: "Yea, I wish that all rules for young scholars were shorter than they be. For, without doubt, grammar is sooner and surer learnt by examples of good authors than by the naked rules of the grammarians."

From this it should not be concluded that the former method died an easy death. In fact it struggled for existence and down to the middle of the 19th century we heard its dying song, and though it was ultimately worsted in the struggle, it survived in one respect, viz., in having its name—and name only—in those institutions which we still call Grammar Schools. The spirit has gone but the shadow has remained to be rejuvenated with the light of enquiry and research which are the characteristic features of all the activities of the modern times.

But how far the present system of teaching grammar by examples—a system which has been, as it were, crystallised from the reaction against the old method, will stand the test of reason, so far as English is concerned, is a matter to which let us for a moment turn our attention. English, unlike Latin and Greek, is an eminently analytical language. Latin and Greek conjugations and discensions, like those of Sanskrit, may, on account of their highly inflectional nature, be made to move,

to a certain extent, along some beaten paths; and the rules framed in the grammars of these languages may cover a wide area and then afford a valuable help for the mastery of those languages. But such is not the case with an analytic language like English. It refuses to be brought down to a uniform pattern—its strength and flow cannot be fenced round by a body of rules however cleverly forged. Besides in every moment of its existence it has been acquiring new life and vigour from the nations of the world which naturally makes it impatient of the rules and laws of grammar.

We conclude, therefore, that the learning of a language which is the rational aim of all grammar teaching can be best acquired by proceeding from the particular to the general, and not from the general to the particular and that this method holds good in the case of an analytical language like English more than in the case of Latin and Greek and other inflectional languages.

Taught thus, grammar has obviously a subordinate or instrumental value. It will help one to criticise intelligently the construction of sentences, to separate them into their constituent elements and, if desirable, to arrange those elements into rules. And these rules formed by the pupil with his own effort at a critical examination of his knowledge of language, may then be safely handed over to him to deduce his conclusions from and to make new application. Herein comes the function of grammar as an art. Here the pupil is to utilise his own acquisition for testing the knowledge that comes new to him. Grammar is thus best taught in connection with composition. It will help him to get a clear and distinct apprehension of thought when it is obscurely expressed, to see the

origin of the obscurity, and, as a consequence, to develop power to avoid similar errors.

When this principle is thoroughly grasped, nothing will be taught in grammar which does not help the object in view, namely, the learning of a language. Analysis and parsing will not be pushed beyond a point when they cease to make the construction clearer. They should, moreover, be not allowed to interfere with "the emotional influence of literature" whose delicate beauty will wither and fall before the severely intellectual process of grammar.

BUSINESS EDUCATION*

THE Selection of Education or any branch of Education as a subject for discussion has created a great deal of interest in recent years. The last ten or fifteen years have seen the whole field of education extended, and as a consequence the greater has been the differentiation between general and special education. To discuss the question of education as a whole is impossible within the limits of a discourse of this kind, I would only attempt to deal with such points of the general field of education and its relationship to that special kind of education required for the present day business-man. I shall, however, add a preface on "Education" to this discourse.

When in youth or early manhood the mind begins to awaken to the reality of life and the seriousness of endeavour, there is born a desire for knowledge. We are confused by the complexity of the phenomena we see in the world. We begin to learn the secrets of

* A lecture delivered to the members of the Madras Commercial Club, by Mr. C. Gopal Menon, with Mr. A. J. Leach, in the chair.

nature and gradually give up ignorance, connecting knowledge with power and life expansion. For this purpose we naturally turn to the seats of learning, which may be to a school, college or the University. These are the gates by which our frail and uninformed minds enter the higher and freer realm of knowledge. For every man the true road is that which leads away from ignorance and tends toward knowledge; the question is what position the school, college or the University holds in relation to this road. Is the school the gateway to knowledge, or is it only one of the many gateways to knowledge. Before beginning to discuss any of the special fields of knowledge, it is essential to have a clear notion on this element in education. For this, we have to examine the nature of knowledge itself.

Knowledge is of two kinds, *primary* or *organic* knowledge, and *secondary*, or *attached* knowledge.

Primary or organic knowledge is as vital a part of feeling and volition as of the memory or the understanding. It may be compared to food and water, while secondary knowledge is a thing apart, like the stores of food in the body of an animal, valuable for the service they may render later on. Primary knowledge is our power or ability to adjust our relations to the facts of the world and it manifests itself in character and skill, or in power, moral and physical.

Secondary knowledge, which is not a vital part of the organism, is of an indefinite variety, according to the intimacy of its attachment or the degrees of its assimilation. In its highest form it is acquaintance with things not consciously related to the knower, an acquaintance of so true a character that when

new relations create a practical demand for it, it is at hand.

The educational problem will then begin at this fundamental distinction between primary and secondary knowledge, between that knowledge which is moral and physical power, and that knowledge which may be converted into power. In short it is the science and art of man-making.

Education has been defined as a drawing forth, implying not so much the communication of knowledge as the discipline of the intellect, the establishment of the principles and the regulation of the heart. Taking this as our definition let us consider how far the study of certain subjects, which have been usually thought to be suitable for the "discipline of the intellect" can lay claim to be so considered. There was a time when all which was worth calling knowledge was the monopoly of the priesthood and this knowledge was imparted through the medium of the classical languages. This continued to be the case practically throughout the whole of the period called the Middle Ages. Towards the end of this period, i.e., during the Revival of Letters, the University was stirred by the new learning, by opening out a wealth of philosophy, poetry, theology, science, art, and politics. Students by careful researches brought to light much that was of practical importance to the world. Through the reading of Aristotle, new ideas of politics, moral and social and economic life were formulated, through that of the New Testament old theological beliefs were examined and new light was cast upon the minds of the people. It must not, however, be left out to mention that the Western learnt a great deal at this period from the East. Most of the great discoveries of this period, viz., the com-

pass, the printing press and gunpowder have been introduced from the East into Europe by the Crusaders. East flourished as a centre of learning at this time, but the subjects of study collapsed when the sterner forces and the common sense of the West asserted themselves. The East is no longer looked upon as a region for inspiration—but only as one for monetary gain.

When you glance backward through the history of education, you observe that the question of elevating our life, of whatever kind it may be, really resolves itself into a question of culture and more especially so in the case of our economic, industrial and business life. What is meant by Culture? culture in the real sense of the word, is that which cannot be conferred in schools. It must find its source in self-improvement and self-exertion. Culture is defined by Prof. Blackie as a drawing forth of all that is potential in a man, the training of all the energies and capacities of his being to the highest pitch, and the directing of them to their true end. One of the most powerful and characteristic instruments of culture is to bring our minds whilst still receptive, into contact with all that is best and greatest in the thoughts, the sentiments, the deeds of past generations of men, in order that these may inspire us and form our characters. Here, however, we may differentiate culture from learning. Learning may be got from books, but not culture. Culture is not a product of mere study. The student has to acquire that discipline which must be carried on by every man for himself, the learning of self-control, the forming of habits, and the effort to overcome what is evil and to strengthen what is good in his own nature so that he may become really a manly man. That is why culture demands anybody's

attention and why you cannot, if you would be real men, afford to disregard its call. Things which it is necessary to know is becoming more and more multiplying. It is so and it was so even in the mediæval ages.

The Education of Alcibiades, one of the best educated men of his time, consisted, we are told, in a thorough training in gymnastics, reading, writing, oratory, music and a trade, and was adapted very accurately to the needs of a future soldier, politician and a businessman. The Athenian father in the 5th century was compelled by law to teach his son a trade, and it was no mere chance that made the Greeks the greatest trading nations of antiquity.

When the development of modern tongues and modern trade rendered the classics of less practical utility, a host of commercial schools sprang up—and we find record of a school of commerce having been established in Berlin at the instance of Frederick William of Prussia so long ago as 1802, its avowed object was "to give such a training for business as is obtainable at present nowhere but in England."

The idea of training for trade, however, got into loose notion evidently due to the belief that successful business-men have owed as little to their schooling as they owed much to their own itinerant force of character. It may be so, but it must not be forgotten that it is only the man whose knowledge and aptitude are the result of careful training, that will survive in the future. It is only on account of this idea that an impetus was given to the system of specialised instruction and hence the growth of the system of technical schools. That we cannot make geniuses is true in commerce and industry, but we can train them of

far greater value to the community than they would be without that training.

With regard to our system of business education, it is not one of commercial education alone we have to deal with. We can arrive at no true conception of it without carefully considering the relationship of commercial to general education. The great aim of any kind of education is to fit the youth to play his proper part in whatever circumstances of society he will be placed. In the words of Mr. Gladstone, the main function of education should be "to make the human mind a supple, effective strong and available instrument for whatever purpose it might be required to be applied to."

It may be thought chimerical to assert that higher education can be so extended as to reach every family where the desire for it is felt. University education is generally considered as a luxury to be enjoyed only by the rich or if won by the poor it is to be considered as a prize.

Whatever may be the aim of the Universities, either to train the student into an instrument for advancing scientific discovery or to fit him well for the trade of a gentleman, the great mass of the people, who have to grapple with the hard facts of life and do the rough work of the world, require a University, which will take the son of the poor worker, not to make him a scholar or gentleman or an instrument of scientific discovery, but to give him a sound mental discipline and while preparing him for his duties as a useful citizen, to develop those powers by means of which he must gain a living for himself and his family. What is needed therefore is to couple the mental with business training, through the simplification of life and manners, through the organization of a

rigid domestic economy in school life and through the cultivation of habits of self-dependence and mutual aid in their students themselves.

It is the recognition of the fact that true education keeps every faculty and every organ in active growth, with increasing vigour and increasing enjoyment, for, the perfectly developed man is the real man, the man whose enjoyment should be supreme, whose health, joy and virtue should be conducive to those around him that should form the basis of every educational institution of the present day but I may say that it is not the school or the University alone which makes a man, and recall to your mind the words of that eminent legislator, and friend of the poor, William Ewart Gladstone that "it is his own appreciation of the possibilities of life, his own determination to make use of the materials, however, scanty at his command, which will ensure success, and will enable him to fight manfully and well the battle of life."

In speaking of education, I have had so far in my view general education which is the keystone of every other kind of specialised instruction. Coming to business education, the three degrees of business education correspond closely to the three degrees in the business world itself, the types represented say, in a counting house by the clerks, heads of departments and the captains of industry and commerce. These types may be represented by trade, secondary and higher business colleges. The first stage has for its aim the creation of sufficient clerks, accurate correspondents, book-keepers, stenographers and typists, etc. The second has for its object the preparatory training of higher class business officials, men expected to work without their being guided by others. The

highest type of business education has for its object the training of those who will be called upon to decide the lines on which business is to be conducted—the mode of conducting business—both home and international.

The best preparation as an initiative for the above three types of training is to give in the beginning the best general education as a ground work and for mental discipline, and then to go further, and build upon that foundation with knowledge which is specially useful in business. The system of education that will be fit for any young man taking to commerce should be such as to produce mental alertness, ready adaptation, and quickness in seizing new ideas and methods. The underlying principle of business education should be to make one active, able and ready thinker in regard to business matters, and especially to produce captains of industry, heads of departments, well-informed agents and travellers and clerks. Commercial men need not have merely technical knowledge, but the capacity of dealing with new situations, of going forward at the right moment and to control labour. They further need a good deal of self-reliance—such a man should not only be a practical man, but should be sufficiently trained just as Doctor, or a Barrister or any other professional man. Modern conditions show that business requires administrative capacity of the very highest type.

The difference between commerce of to-day and that of fifty years ago is increased complexity and increased competition. Both changes are chiefly due to improved means of communication and improved scientific methods. Increased complexity and increased competition being the characteristics of

modern commerce, it seems to follow, that the education of a business man should be such as will develop in him business power and business knowledge. *Business* power is best developed just as other intellectual and moral qualities are developed by a good general education in the school and the University, and the acquirement of *business knowledge* should be considered as specialised instruction.

It is hardly possible to bring in this discourse all that I have to say on business education. Having dealt with the main points of the subject, I shall wind up the subject by a few words of advice to students. It must be remembered by the votary of commerce that no matter how well educated he may have been and how complete his course both in school and college, when he gets into a business office he has still a great deal to learn, and he may ever find that the return which he, in the first instance, gets, may be an inadequate one, but you may be rest assured that as business life is the greatest profession, in the world, from the standpoint of opportunities, you are bound to achieve success and eminence gradually if you possess the fundamental business faculties of strong common sense, energy, and particularly reliability together with the kind of education that I suggested.

I have one word to say to the students of the educational classes of this institution. The old year is coming to an end, and the new year is on your threshold, and no doubt many of you are thinking of what has been accomplished by you in the past year, and whether you can confidently say you have satisfied yourselves with the progress made. There are three types of students, first, the self-confident, secondly, the one who feels his

deficiencies, and thirdly, he who thinks that he has not done all he wished to do, he at any rate has done his best. To each of these three students, I express sympathy of the heartiest kind. Whatever may be the nature of work done by you, you have learned one, of the lessons of life, *i. e.*, your reading has not been in vain. You have the satisfaction that you have directed your efforts in the best direction of the "something attempted, something done" of which the poet has spoken so well. Take courage, however, do not feel your work is unprofitable. You must know that spasmodic work is not of much avail. To attain eminence and success, you have to lead a laborious life, and exercise indomitable perseverance and unswerving integrity. You young men, who have cast your lot in the midst of commerce should be proud of the profession you have chosen. It is an occupation of growing importance and you must behave yourself in such a way as to merit the regard and esteem of your employers by discharging your responsibilities and duties with skill and faithfulness.

CORRESPONDENCE.

SIR,

In your Editorial notes, (March '14) you make some pertinent remarks regarding the resolution of the Hon'ble Dr. Nair to which I subscribe myself heartily. That the lot of the subordinate members of the Educational Service needs improvement no one will deny; but I find that in your enthusiasm to advocate the cause of the Collegiate branch of the Subordinate service, you have unduly depreciated the importance and competency of the members of the Subordinate service in the Inspectorate. The following is a memorandum which I have prepared for the

information of some of the Hon'ble Members of the Madras Legislative Council. It will show that the members of the Subordinate service of the Inspecting branch deserve as much consideration as those in the Collegiate branch. I hope that in your usual fair-minded way you will publish this in your valued columns to help the right formation of opinion on the subject by the public.

MEMORANDUM.

The Educational Service as it was constituted did not make any distinction between the Collegiate and Inspecting branches and these were freely interchangeable. We owe it to the far-sightedness of the late Mr. G. H. Stuart that it was so designed, and the two branches were placed on parallel lines, in order that specialisation may be encouraged in either line. For while the teacher had to specialise in the subjects he taught, the Inspector had to specialise in a knowledge of methods in addition to learning all the subjects under instruction in the Elementary and Secondary schools he had to inspect or help inspecting. This principle has been recognised by Sir Alfred Bourne and the Hon'ble Mr. Stone as is evident from their statements in the Council.

The duties of the members of the Inspectorate, of whom many are District Assistant Inspectors, are as important, requiring talents of as high an order as those of the Assistant Professors. The mere mention of their duties will suffice to show the necessity for men of talents being appointed to carry out their duties efficiently.

(i) They are in charge of the elementary education of their districts and they assist the Circle Inspectors in matters of secondary education. Some of them are in the responsible posts of Heads of Training Schools.

(ii) They have to keep themselves well-informed in a variety of subjects taught both in the elementary and secondary schools and especially with the vernaculars of the different localities, as

many of the Inspectors have little proficiency in them and depend upon their assistants in regard to them.

(iii) They must be abreast of the times in regard to educational methods and must be unwearied in their adaptation of educational methods to the needs of particular communities and localities. Here, quite as much constructive ability is required as in "research work" which is so much talked of in connection with Assistant Professors.

(iv) It is not every one that can do research-work and officers of the Inspectorate with special talents and genius do turn their attention to experimental work of no mean order in the fields of child-psychology and pedagogy. In this they are in the same level as the best men in the Professorial staff.

(v) In addition to the above important considerations which make it necessary that the highest talent is required to carry on most of the above duties the members of the Inspecting branch have to expend a good deal of physical energy in carrying on their administrative work touring in the district. The physical exertion thus entailed makes it necessary for them to have all the privileges as to leave, allowances, &c., pertaining to the Provincial Service to help them to keep up their dignity and a high degree of efficiency.

(vi) After the abolition of the "results grant system" under which the inspection was purely mechanical the assignment of grants to individual schools requires intelligence and culture of a high order. They have to base their grants not only on the results of examination of pupils in various subjects but on a consideration of the organisation, discipline, quality of the staff, the quantity of work turned out during the year, and the extent to which their suggestions were carried out; and they have to offer constructive criticism in view of the improvement and extension of elementary education. It is thus clear that such

kind of work requires a great deal of judgment and broad-mindedness.

None will deny that mass education as well as efficiency in working secondary educational institutions depend upon these people. If the Professors are the guardians of higher educational work, the Sub-Assistant and Assistant Inspectors are the mainstay of such work; for, with men of small qualifications in the Inspectorate, the substantial foundation so absolutely necessary for higher education cannot be guaranteed. Thus it will be seen that these Assistants in the Inspectorate should be men as competent as the Assistants in the professoriate. The Inspector should be far seeing and look ahead intelligently in the discharge of his pioneering work of a very high order. The Inspector is as important to the well being of the country and the nation as the professor.

The above considerations will certainly show that the men of the Inspectorate need and deserve to be treated quite equally with the professors. Now I shall show even as at present constituted, the professorial branch enjoy greater privileges than the Inspectorate. The following table will make this clear:—

	Provincial Service.	Subordinate Service.	Total.
College Department.	23	43	66
Inspectorate.	15	205	220

37 in Subordinate Collegiate proper and 6 outside the cadre of Provincial Service.

13 Assistant Inspectors and 2 Inspectors. Assistant Inspectors and Inspectresses, Sub-Assistants, and staff of Training schools.

One may see from the above that the proportion of appointments in Provincial Service and the Subordinate Service are as 1 to 2 in the Collegiate branch and only 1 to 14 in the Inspectorate. Besides some concession is shown to the

collegiate staff by shifting them to the Inspectorate and then providing for them in the Provincial Service. This procedure, it must be added, is painfully detrimental to the interests of the subordinate members of the Inspectorate. Besides a glaring anomaly is seen in that only 13 Assistant Inspectors are placed in the Provincial Service while the rest 12 are in the Subordinate service only; though all are equally District officers and have the same duties to discharge. One ought to note that there are already some half a dozen M. A., L. T.s recruited into the service and that better prospects alone will attract more of such men.

The provincialisation of the whole service in regard to the subordinate branch will not be objected to if a corresponding equitable readjustment is made in the Inspectorate allotting a substantial number of appointments to the Provincial Service. If funds be insufficient for the purpose, a partial provincialisation of the Subordinate service in the Collegiate branch and increase in the number of appointments to the Provincial Service of the Inspectorate ought to be affected. A scheme may be proposed but the anomaly in regard to twelve of the Assistant Inspectors being invidiously in the Subordinate service must first be removed as it is a necessary preliminary to any reorganisation. I propose the following scheme:—

	Provincial Service.	Subordinate Service.	Total.
Collegiate Branch.	44	22	66
Inspectorate.	55	165	220

This will be a fairly equitable proportion to begin with. It must be noted that among the 40 appointments additionally allotted to the Provincial Service in the Inspectorate twelve are Assistant Inspectors who are District officers in whose behalf the change is demanded as a matter of right. The remaining 28 may be distributed among the heads of Training institutions, Assistant Inspectresses and senior Sub-Assistant Inspectresses.

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I believe, Sir, that in the interests of education and of the service any undue emphasis of the importance of one branch of the Service should not be resorted to. Probably higher education can take care of itself and in many of the western countries is carried on only by private effort. Whereas for mass education and efficiency of secondary educational institutions the fostering care of Government is an absolute necessity, as it is the experience of most countries. It is the Inspectorate who have the sole charge of it and who can secure efficiency in such work.

ADDRESS TO THE SENATE OF THE UNIVERSITY OF BOMBAY.

BY SIR ALFRED HOPKINSON.

(February 26, 1914.)

I greatly regret that it was not possible for me to meet the Senate as arranged at the end of last month especially as I fear that inconvenience must have been caused to some of the members. I believe it is the first occasion in my life on which I have been prevented by illness from fulfilling an important engagement and therefore all the more unexpected. I had originally hoped that my report or opinion would be in the hands of the University before I left India. This is no longer possible as although I have visited all the colleges of the University (except Kolhapur) and conferred with the Principals of all and with the staff of most of the colleges, it will take me some time after my return to England to deal with and arrange the material which I have obtained. I expect, however, to place my report in the hands of the Vice-Chancellor by the beginning of next term and I understand that no practical inconvenience will be caused by this short delay, especially as the more urgent and important

matters form the subject of special memoranda, some of which are already before the Senate, others will be ready for submission to the Syndicate before I leave. It may be thought that the regular and perhaps most prudent course would have been to deal with all the questions together in a single and complete report, but I had not been long in Bombay before coming to the conclusion that it would save time and really be more effective and would also bring me into closer touch with those who are carrying on the work of the University if I attempted to deal with certain subjects separately, especially in relation to those matters on which the policy of the University had been already declared. As regards some of these questions, it appeared that steps might be taken at once one by one. It is better, as John Bright once said, not to attempt to drive a dozen omnibuses abreast through Temple Bar. The right course seemed to be to take the Senate as early as possible into full confidence as to the general character of the suggestions to be made, to indicate the ideal aimed at and then afterwards to deal in greater detail with the various matters that have arisen. I, therefore, gratefully welcomed this opportunity of meeting the Senate before my complete report is presented.

The first essential point to which I felt attention should be directed, in order to carry out the proposals for developing the work of the University as an institution for teaching and research as well as for examining, was the necessity of providing at once for some further accommodation to enable that work to be carried on properly and that there should be no delay in dealing with this matter. Since this question was first raised, it has been suggested that it is not impossible that

the Secretariat and adjoining land might ultimately be devoted to purposes connected with the University. A stranger might have hesitated to make so bold a suggestion and indeed have feared that to do so would have challenged his instant deportation but when it was clearly indicated as a possible course on the responsible authority of the Vice-Chancellor in his evidence before the development committee and apparently not received with disfavour by that committee, it becomes not only "a consummation devoutly to be wished" but a matter "within the sphere of practical politics." If this idea is adopted, it would make the site from the University point of view not merely "the best under all the circumstances of the case" but a singularly fine one, which many great Universities might well envy. Of course any such proposal would take a long time to carry into effect but meanwhile the new developments of University work would proceed in a satisfactory way, if the comparatively small new building now suggested—for which sketch plans may be at once submitted—is erected forthwith. This erection need not in any way interfere with and would not be rendered unnecessary by the execution hereafter of the larger scheme above indicated. I have dealt with this matter in detail in the memorandum which is before you and it is unnecessary to say more about it at present except that it is an essential first step if progress is to be made along the lines already approved.

A second memorandum is devoted to the question of the library. Already the University has recognised the necessity of re-arranging as well as adding to the library and of appointing a trained librarian who will devote his whole time to the work. It is

satisfactory to note that a graduate of the University has been selected for this office and is now studying the methods used in some of the important libraries in Europe. The existence of the important library of the Asiatic Society in Bombay should not be overlooked and it is to be hoped that by some arrangement with the authorities of that library, it may be possible to secure for Bombay more valuable works covering a wider range than a single institution could obtain. The subject of Natural Science might be provided for in the library of the Science Institute now in course of erection. Efficient general supervision of the library arrangements might be obtained by the permanent appointment of a Standing Committee, with wide delegated powers, on which gentlemen of special knowledge and interested in various subjects of study, could be associated with members of the Syndicate. It may be desirable to assign some honorarium to the working Chairman or Secretary of such a Committee, a position which, especially at first while the library is being reorganized, may involve a considerable amount of work. In this connection I may also refer to the importance of a relation being established between the University and the new Museum so that the collections placed there may be so arranged and increased as to be made as useful as possible for the purpose of study and research and for the illustration of the teaching given in the subjects there represented.

The next important point to notice is the mode of carrying out the general proposals already sanctioned with regard to appointments to be made by the University as a body which will undertake advanced teaching and research.

In two memoranda now submitted to the Senate I have ventured to state certain general principles which I think ought to guide it in making those appointments. The first is that, as regards the permanent professorships at least, research and teaching should go together and that, in the selection of subjects, those should be taken which can be studied better in India than elsewhere, in which the special material can be found in India. Those who carry on advanced study and research in allied subjects in one institution can render invaluable assistance to each other and stimulate each other in their work. For this, as well as for other reasons, it is most desirable that from the outset, at least three regular professors should be appointed in the subjects classed as "Orientalia." The attention, both of Government and of the wealthy members of the community, such as those to whose generosity in the past the University owes so much,—should be called to the great opportunity which might thus be given for the advancement of knowledge in India. The specific endowment of chairs, to which the names of the donors or of those whom they desire to commemorate could be attached, is to be hoped for. It is endowments of this kind which have been of special assistance in aiding the development and establishing the position of some of the Universities, especially some of the new Universities, that have arisen in the West. Whatever is done, the utmost care will be required to select for such chairs only those who are really competent to add to knowledge as well as to teach and to stimulate those with whom they are to work. Every possible effort should be made also to interest Indian scholars, who may not be members of the

University or college staffs, in the investigations which may be undertaken.

It is satisfactory to note the steps already taken with regard to the appointment of *lecturers* in India who will give special courses in the University. It may, no doubt, be difficult always to secure the *Readers* required from Europe for the monsoon season, but the growing attraction of a visit to India for University teachers of eminence from England and other countries will assist the efforts made in this direction, and even short visits, like those which it is expected Professors Smithells and Ramsay Muir will shortly make to Bombay, may from time to time be found both interesting and useful.

However important other matters may be, it must never be forgotten that the first and paramount duty of a true University is the training of those who are able to pursue further study after the time of leaving school; as the old phrase has it: to train up "a due supply of persons fitted to serve in Church and State," using these terms in the widest sense; including as servants of the State those who will contribute to the material welfare of the State, its orderly government and sound administration, not only, in offices under the Government and Municipal authorities, but in the administration of the law and in the other learned professions and also those who will take part in managing and promoting its industries—its agriculture and manufactories, its constructive works and its commerce—and as servants of the Church, those whose duty it will be to devote themselves to the purely intellectual and spiritual side of life. A University cannot devote itself solely to what have been sometimes called "bread studies." In our University at present, the main work of

imparting knowledge and of training mind and character is carried on in its various affiliated colleges all over the Presidency and this will continue to be the case. Objection is sometimes taken to the system of "federation" and affiliation, but it is the existing system in Bombay and has some positive advantages. There is room in such a system for colleges of varied types and perhaps for a more direct personal influence of the sympathetic teacher and for the closer relationship of the student and instructor in the life of a residential college. Some of the greatest Universities have a collegiate system, the main part of the instruction being given in the associated colleges. Oxford and Cambridge, for example, would lose much of their best influence if the collegiate system were non-existent. Balliol and Keble, Magdalen and Mansfield differ in character, but all contribute to a true University life. In this connection I may notice that the question has been raised whether the time has not now come for the establishment of separate teaching Universities in two or three centres in the Presidency outside Bombay. I am clearly of opinion that the time is not yet ripe for any such radical change to be adopted. I believe the true policy is that on which the University has already embarked, of making a real University centre in Bombay with a proper University Library, suitable rooms for conducting University work and a centre of meeting for its members and of providing for really advanced post-graduate study and research. This will set an example and a standard of what the true University ideal should be. At the same time every encouragement should be given to existing colleges to continue their work and to develop on the lines and in the subjects for

which each is best adapted, including, where possible, research in special subjects as well as teaching.

I propose in my final report to make some suggestions in detail as to inspection of colleges and their relations to the central body.

Secondly, a University must devote its attention to research, to making additions to human knowledge. Associated work of those who can help each other in allied branches of work, where the experienced can guide the younger and the young can stimulate the older men, is likely to be most productive.

Investigation is essential to true University life. It is this which will prevent a University and its colleges from stagnating, save them from merely teaching stereotyped phrases and becoming a deadening instead of vitalizing influence on the progress of thought. This branch of University work will, I trust, under the new proposals be fully recognized in Bombay and carried out on the lines above suggested.

Thirdly, the University should exercise an influence on the whole community in which it is placed, on those who are not actually members of it as well as those who are. It must help to inspire a more general interest in intellectual pursuits, in learning and in science, and avail itself of the knowledge of those outside of its teaching staff and even of its graduate body, who can contribute to the advancement of learning and science. It should also exercise an influence on schools, promoting a feeling of solidarity among teachers, remembering that the early stages of education are of at least equal importance with the later.

In this connection there is a practical matter that demands, at the earliest possible

date, the earnest attention of the University authorities.

I refer to the relation of the University to the secondary schools and to the conditions under which students are to be admitted to the colleges. This question has become more urgent this year owing to the very largely increased number of candidates who have passed the Matriculation examination. The present position is unsatisfactory in three ways:—

(i) The absence of direct communication between the University and those who have the conduct of the secondary schools.

(ii) The varying standard of the Matriculation examination itself and in some respects the inadequacy of the standard required.

(iii) The existence side by side of two examinations—one the Matriculation examination—recognized for admission to the colleges and to University courses but not by Government; and the other recognised by Government but not by the University.

I believe the only satisfactory way of dealing with this difficulty is the constitution of a Special Board representing both the University and the Government, a Board which would deal with the whole question of School Leaving and University entrance examinations. Masters of secondary schools, both public and private, should be selected as members of such a Board. It is essential that it should contain men of experience, both in University and in school teaching.

Since my return to Bombay, I have prepared a memorandum on this subject, which I hope will be considered by the University at an early date. I have also ventured to suggest an alteration in the Matriculation examination itself, which, I believe, meets with the approval of many experienced

teachers both in the colleges and in some of the best schools.

Lastly comes the duty, to which hitherto the attention of the University has been mainly directed, of testing the knowledge and training given, of conferring degrees and other credentials of attainment, which will guide those who have appointments to make, and of stimulating the efforts of students and directing their courses of study by the honours and prizes awarded. It may be the least important but it is still a very important part of the work of a University. Too much attention may have been paid in the past to examinations and examination results, but I believe that they are still necessary and may serve a useful purpose. In dealing practically with University courses and regulations, it is impossible to separate the consideration of the questions of teaching and of examination, one affects the other too intimately. On these matters I may briefly state the lines of the suggestions I desire to make.

I have prepared a special memorandum on the Law School and Faculty which is already before the Senate and also one on the newly-established College of Commerce and the degree in that subject.

The changes I have ventured to suggest as regards the Law School may appear inconsiderable, but there ought to be little difficulty in carrying them out and I believe they would make a very great difference in the efficiency of the school which is being carried on under conditions which at present are far from being satisfactory. On this subject I can speak from more direct experience as a teacher and examiner than I can claim in other cases.

As regards Medicine, I propose to make some practical suggestions in my final report.

The question of instituting a separate

Faculty for Science will require consideration. The foundation of a new College of Science in Bombay and the important developments which are going on in Ahmedabad and other places will completely alter the position as regards higher scientific instruction in this University.

With regard to Arts, the largest and still the most important Faculty, in view of the fact that changes have so recently been made in the curriculum and regulations, which have been fully discussed, I do not think it desirable to suggest any important modification at present.

Before I conclude—I cannot let this opportunity pass without alluding to two subjects which appear to be of paramount importance in India. I refer first to the question of research into the causes and character of diseases, especially those known as tropical diseases and of studying the best means for the prevention of disease and secondly to the promotion of agriculture by investigation and by spreading knowledge of the best agricultural methods as widely as possible. Day after day in our churches in England we pray for deliverance “from plague, pestilence and famine,” but, although we have our special difficulties and troubles to contend with in the West, I doubt whether we recognize the full significance of those words until we come to the East. The dark cloud of disease, actual and threatened, is ever hanging over the country. I believe that *here and now* in Bombay there is a unique opportunity of doing something really effective in this matter, and that there is nothing more likely to produce results of real benefit both to India and other countries and to add to the repute of the city and University than the establishment of a great school of research in tropical diseases and of preventive medicine in Bombay. The

position of the city is singularly favourable for this and the material for investigation is unfortunately unlimited. The nucleus of such a school already exists at Parel. You have five hospitals and a great medical school for the treatment of disease and for investigating the best methods for the cure of disease and for training the medical practitioner, but there is a special field for advanced research on special subjects and for the study of preventive medicine by those who have already qualified as medical men. I believe that the University can exercise a great and useful influence in regard to this matter and I have ventured accordingly to prepare a short memorandum about it which is now ready for submission to the University trusting that earnest support will be given to those who will have to frame and work out a scheme for dealing with the matter in connection primarily with the laboratories at Parel.

With regard to agriculture I can only say now that the work going on in the college at Poona has already proved its value and it is to be hoped that the example already set there will be followed, subject to such modifications as may be necessary to suit local conditions, in other places. The prosperity, indeed the very life of India, depends more on agriculture than anything else. It has been truly said that he who can help to make two blades of grass grow where one only grew before is the greatest benefactor. It is encouraging to feel that in this matter every useful forward movement will have warm support from Government. No true friend of the University would attempt to conceal the fact that there is much to be done, many difficulties to be faced, before its position can be regarded as entirely satisfactory, but I cannot help saying how en-

tirely I concur in the hopeful tone which characterised the memorable address of the Vice-Chancellor last week and in what he said with regard to the general policy of the University and the spirit by which it should be inspired. I believe that the essential conditions of success do exist here. I may sum them up as:—

(1) A real desire amongst students and their parents for higher education. I have heard of many cases of the great sacrifices made by families and by the students themselves to secure it. There appears to be a real popular interest in the subject.

(2) Among the wealthier members of the community there is a generous disposition, proved by such gifts as those which provided your hall and library, and more recently new buildings in connection with the College of Science and the important new extensions at Ahmedabad, to refer to a few only of such benefactions.

(3) We have a Government which is really anxious for educational progress on sound lines.

(4) There are earnest teachers both Indian and English, in the colleges of the University and, although opinions may differ on many subjects, the affairs of the University are in the hands of those who really care for its welfare and are ready to devote time and thought to promoting it.

Where such conditions exist there is every ground for encouragement and for hope in its future.

May I, in conclusion, add just one word of personal reference and say that although at a distance I shall watch the development of the University with keen interest, glad if there is any way in which I can ever be of assistance to it, that the pleasure with which one sees

the advance of a good cause will, in my case, have an added zest from the recollection of the kindness and cordiality of my reception here and that I shall always regard it as a high privilege to have had the opportunity of being associated, even for a short time, with those who are working together for the good of India.

RECENT CONVOCATION OF THE BOMBAY UNIVERSITY.

The following Address was delivered by the Hon'ble Mr. Justice J. J. Heaton, I.C.S., the Vice-Chancellor :—

Mr. Chancellor, members of the Senate, graduates, ladies and gentlemen—

The matter on which I propose to address you this afternoon is one which must be uppermost in the minds of all who have the welfare of this University at heart. I mean the advancement of the University; the growth of its influence.

Education is one of the most controversial of subjects; next to religion and politics perhaps the most controversial of all. The reason it may be is that education is inextricably connected with religion and politics. This afternoon, however, I purpose to be as little controversial as possible, or rather to express some of those things only, which, in principle, I believe the great majority of you hold to be true.

First of all there is this—if ever our University is to hold a position at all worthy of Western India, at all suitable to the position Bombay holds amongst the cities of the world, it must be something far different from what it now is. It must be a corporate entity with an active life and a vigorous influence of its

own, an influence comparable in its effect with that of the great European Universities. This I take to be so truly a matter beyond question or dispute that it is needless to say anything in its proof. What we are concerned with is how this result is to be brought about.

One other thing appears to me also beyond question: in seeking to achieve the result we desire, we must build on existing foundations, for they are neither too weak nor too narrow for the purpose. Our University has lived now for 57 years. It came into existence substantially as a body to conduct examinations and to confer degrees and the position which it first occupied has only recently begun to be extended. By the law of 1904, the possible activities of a University were enlarged so as to include all that tends to the promotion of study and research. The foundation on which we have to build, however, is that which was laid down 57 years ago.

We have an organisation which has efficiently conducted the business of the University such as it is. It may be that the scope of this business is far too limited for our purpose; nevertheless the changes which are to be made in the near future are less likely to be fundamental changes of constitution than an extension or enlargement of the present organization.

Beginning with the Registrar and his permanent staff, we have a body of experienced and capable servants, who conduct the business of the University in a manner which deserves confidence, and has won the approval of competent observers.

The Syndicate or managing committee, as it may be described, gives to the service of the University a very large amount of arduous useful unpaid work. It has fallen to my lot

to preside over their deliberations for about 18 months and I have never left their meetings without the feeling that in the Syndicate we have a body of competent workers, who are inspired by the determination that our University must progress and improve.

In the Senate we have a much larger body. It is their deliberations which mainly come to the notice of the general public, their proceedings which are the subject of most of the criticism. Here again, we have men, who essentially are in earnest. Those who have followed their deliberations for the last 3 or 4 years cannot, I think, have failed to be impressed with this. As the resources of the University have increased; as the possibilities of larger activities have opened out, the Senate has shown a constant desire to make the best, the most helpful use of their opportunities.

It is sometimes said of them that they are given to too much talk and too little achievement. To deal with the latter criticism first—they do accomplish what comes to them to do and they accomplish it in a spirit of endeavour to realize both sides of a question and to choose the right and eschew the wrong. As to the talk, this is an age of speech-making, but if a critic were to attend the meetings of the Senate watch in hand, he would be surprised to find how few of the speeches exceed ten minutes in duration and how many extend over only half that time. Of the longer speeches he would find that most are devoted to the exposition of a subject by the proposer of a resolution or an amendment or to its criticism by the chief opponent. In these cases, speeches of some length are often necessary. Looking back on my own experience of Senate meetings, I can

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truly say that I wonder rather at the amount of business done that at the waste of time in irrelevant or aimless talk, for of this there is really but little. Do not, however, imagine, we think that we cannot improve. We are conscious of our deficiencies and though perhaps less anxious than our critics to describe our defects we are certainly not less eager to remove them.

Presently I shall have a little to say of what in the last two years has been done and of what in the next few years may be done. But what I wish to emphasise at the moment is this: we are bound to fail unless we have confidence in ourselves and can inspire it in others. We have confidence in ourselves; we have a definite end in view, and though opinions may differ as to the route by which we are to reach it we are all determined to attain that end. That being so, we invite and we feel we are entitled to invite others to have confidence in us. We have many problems to solve, but to their solution we bring an enquiring and a hopeful mind and though inevitably we must make mistakes we are earnest seekers after the true solution.

This is the first point I wish especially to make. Our organization is sound both in theory and practice, not perfect, not without need of improvement, but essentially good and capable of improvement.

Next, there is something which must be said as to the nature of the education which has been encouraged. It has been greatly criticised in the past and assuredly we shall have volumes of criticism in the future. I will mention two lines of criticism—the most cogent it seems to me of all. It is said that the effect of higher education in this country has been first to produce intellectual arrogance grossly disproportionate to mental

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acquirement, with the inevitable result of great discontent. Secondly, it has led to the development of the memory at the expense of the other intellectual powers, especially the faculty of clear thinking. When we remember how narrow the field of University activity has been and how exiguous its means, can we fairly attribute these defects solely or even mainly to the Universities?

The University Commission reported 11 years ago that they "were not disposed to confirm the sweeping condemnation which has sometimes been passed on our University system." For myself remembering the narrow limits within which the Universities have had to work, I feel that they can look on their achievements with more of hope than of misgiving.

But allowing, as we must allow, that there is a solid residuum of truth in the criticism, how are we to improve? There are in particular two ideas which must become dominant. The first is that learning consists not in memorising sentences but in forming correct mental pictures of what the sentences mean. The second is that the object and ambition of the student should be to learn thoroughly, to do things well for the sake of doing them well; the desire should not merely be to pass an examination. If that becomes the sole aim, the standard is inevitably low and a low standard means bad work and demoralization.

These views are commonplaces; they are widely and strongly held by the members of the Senate; yet they are not given full effect to. Why? One reason is that the University at present is too much a collection of inarticulated parts, it is wanting in the vitality of a mature organism and in power of concentration. When this is reme-

died, as it is bound to be; when we become an organization with a vigorous ambitious life, we shall make ourselves felt. We shall then influence the Colleges where our teaching is done. I say influence, for I mean influence and not control. I mean the influence which comes of mutual respect and close association. At present we may respect each other, but there is a great want of close association.

To turn from the purely theoretical to the practical aspect: There is a widespread feeling that at present the college classes are too large, that teaching is too exclusively a matter of lectures and that students have to depend too much on private reading. I look forward to a time when drawbacks of this kind will be greatly lessened; not by any direct action on the part of the University so much as by force of a common University feeling insisting that such drawbacks must be remedied.

I have differentiated influence from control; a measure of control the University already has. It prescribes curricula, text books, and percentage tests of examinations. These are probably intellectually and also spiritually about the poorest way in which control can be exercised. Curricula have very little to do really with education. Given the right kind of teaching and the right kind of relationship between tutor and pupil a boy's intellect will develop almost as well under one course of study as under another. Text books no doubt are necessary, but they are a necessary evil; a limitation on tutor and pupil alike. Percentage tests are also an evil; to be tolerated only because we will not or cannot allow examiners to say without regard to marks, whether a candidate should or should not be passed. Control of this kind has very little relation to intellectual life, we need to

supplement it by a different kind of connection altogether between the University and the Colleges. We need the connection of close association, mutual understanding and common purpose.

Something of this kind it was no doubt intended to bring about by the inspection of Colleges, but experience has shown that such inspection as we have been able to contrive is not efficient for the purpose I am speaking of. It does bring to light defects and to some extent results in the remedying of those defects; but it does not in any considerable way bring about that kind of association and common feeling on which I am laying so much stress.

That is the end we should have in mind. How does it stand from the point of view of the University degree, for it is as the grantor of degrees that this University is best known. What does a University degree imply? In the best sense it implies far more than the passing of an examination; it implies submission to the discipline, to the teaching and to the influence of the University; and that such submission has been to the advantage of the student and to the credit of the University. With a system of independent affiliated Colleges such as ours, the University has but little to do directly with discipline or with teaching, at least with the teaching of undergraduates. As at Oxford and Cambridge we must proceed largely by a kind of delegation; the Colleges become the instruments of the University. We have recognized and to a certain extent acted on this principle, for substantially we confer degrees only on those who have submitted themselves to the teaching and discipline and influence of our Colleges.

The greatest of our defects, as I have

already indicated, is that there is too little of a true University influence. As a corporate body we have been almost sterile in this direction, in any large or useful sense. We do not make any real appeal either to the affections or to the imagination of our students. To them we are little more than a forbidding sentinel at the gates of academic success; to the public little more than a machine for stamping or rejecting educational tokens.

Some little time ago a writer contrasting the Universities of Oxford and Cambridge said that whilst Cambridge is the abode of great men, Oxford is the home of great movements. There, he expressed the two chief ways in which the influence of a University manifests itself; in the men it gives to its country and in the stimulus it affords to intellectual movement. Eminent men there are amongst our graduates and intellectual stimulus there is also, but they are to a far greater extent the product of our Colleges than the product of the University.

There is no desire to lessen the powers of the Colleges, rather to stimulate them, and one way, one essential way to do this is to bring them into closer contact with the University and to create a corporate feeling and activity.

Here again it seems to me unnecessary to say anything in proof of my assertion except this; that where there is an active corporate University influence it must necessarily be both more varied and more extensive than that of any College. Nor is it necessary to ask now who is to blame for the intellectually sterile position of the University in the past. This much however must be said: until very recently the University never had a real possibility of creating a profoundly intellectual spirit. Until 1904 its activities

were too restricted by the law, and since then until very recently they have been too limited by want of funds.

Now, however, the Government have made an annual grant which enables us to make an advance, and for a good many months past the Senate and Syndicate have had to consider how this grant is to be expended; how the field of our operations can best be widened; and how we can so vitalize the organization of the University that it shall have a corporate life, an identity and an influence of its own. As in the life of man, the life of a University consists in the doing of many little things. It is the multitude of small things rightly done which builds up the great achievement. So we have to consider and determine what the multitude of small things shall be.

I will give one instance of what I mean. We are working to establish a good University Library, accessible and useful both to students and teachers. This involves the choice and the procuring of books. It involves cataloguing and arranging the books. This last means the careful choosing and location of shelves with reference to the structure of the building and its lighting. We must also have a competent trained librarian and a method of easily finding any book when required. All this needs much thought, much work and active and intelligent supervision. A mistake in any one of the details involved in these matters will impair the usefulness of the library. Only if all are done well shall we have a good library. Yet all are made up of matters of minute detail.

We have begun to work in other directions also. It has been determined to appoint a Professor of Economics and it is hoped we shall be able to proceed to the appointment

of one or two Professors of other subjects. We are arranging for certain courses of University lectures suitable for M. A. candidates. The need for new University buildings is imperative and so is the provision of something in the nature of a University Institute or Union where men from the different Colleges can meet; and we are considering how to supply these needs. For the first time a University cricket match was arranged. We sent an eleven to Madras where our side was successful, not only in winning the match but in showing that inter-University meetings are practicable and helpful.

We have recognized that in our course of developing University life and activity we are likely to be aided by experience from elsewhere and have been fortunate enough to secure the services of Sir Alfred Hopkinson. He is fitted by temperament and experience to enquire into our system and our opportunities of advancement; more particularly so, because he himself has knowledge of the change from a federal or diffused to a highly concentrated form of University. As our proceedings towards advancement are still incomplete or tentative and as Sir Alfred Hopkinson will, it is hoped, address you himself, I will not here say anything further in detail.

I have already indicated that our aim should be to establish more intimate relations between the various University officials and a closer connection between the Colleges and the University. There are many practical ways in which this can be done. First by establishing some common place of meeting. If men come together there will naturally follow interchange of ideas, discussion and the creation of a common feeling and a common purpose. Then wider powers of delega-

tion for transacting University business will bring a larger number of men into active work for the University and will diffuse the feeling of co-operation. University lectures will bring together graduates and possibly undergraduates from different Colleges. The library when properly equipped will be a centre not only for enquiry and reading but it may be hoped also for mutual help and discussion.

Another matter of the greatest importance is the encouragement of the spirit of enquiry. Up to the present we have not succeeded in developing very much beyond the mere acquisition of existing knowledge. We must make it our business to promote the extension of knowledge; the true advancement of learning. There is an enormous amount of enquiry, of research, which must be done in India, that cannot be done elsewhere. For example, enquiries into diseases and sanitation, into the trend of economic tendencies, into the history archæology, ethnography and languages of India. A beginning has been made, something has been done; but by whom? Very little indeed has been done under the stimulus or with the help of the University. Mostly it has been done by Government officials, with the aid, under the control, and at the expense of the Government.

To those who connect Universities with the advancement of learning, this condition of things is remarkable. Almost the entire field of existing Indian research is covered by the Government officials; the Universities taking a part that is in truth almost negligible. If the University is to be in reality a promoter of the spirit of enquiry there must be a change here. It may be that for long the Government will continue to be the chief provider of funds for research, but we ought at least to have a

share in training and furnishing the men, and we ought to encourage the spirit of enquiry. This, in part, it is believed, we may do through University Professors. If Professors are chosen in those subjects which peculiarly require research in India, if they are given leisure for and possess the spirit of enquiry, then inevitably we shall have extensions of knowledge as a part of our University scheme. And if these Professors gather round them students, also filled with the spirit of enquiry and eager to help their master, then we shall have established a connection between the University and research which in the future may be very fruitful.

Yet buildings, lecturers, professors are after all only the outward and visible sign. What of the spirit within? That is the element of supreme value. Whatever the manifestation, it is the inward spirit which for good or evil will prevail. In this there is, I believe, a real basis for hope. There is a widespread feeling in the University that we must not stagnate, that we must advance. And in the Senate and Syndicate we have men eager to develop the vitality of the University and the spirit of enquiry. It is their ambition that this University shall attain to a position which will mark it as one of those centres of learning and enquiry which are of importance to the world.

Finances are perhaps our greatest difficulty. If we are to occupy a worthy position we must spend far more than the Government will be able to allot to us. We need the endowment of professorships, lectureships and research. We need expensive buildings and equipment and something in the nature of a University Institute or Union. The wealthy citizens of Bombay have never been niggardly in the support of great public institutions as is

witnessed by our own buildings and by the colleges and hospitals in this city. The development of the University is a matter of great public interest and importance, and may well appeal to individual generosity with compelling force.

To sum up what I have said : for a stimulus to learning and intellectual advancement we must in the future look largely to our Universities. We have already existing an organization, a constitution which I believe to be capable of ensuring and controlling the growth we desire.

But this growth must of necessity be vitalized from within. Like all living things it will answer to stimulus from without, but whatever the external stimulus it must be sterile in result unless there is an answering vitality within. This principle must regulate the relations between the Government and the University. The connection of the Government is essential, but it is an external connection. The University must live in virtue of its own vitality, not as a department of the Government. The same principle applies to benefactions to the University ; the best form of benefaction, that which will most conduce to development, is a benefaction to meet ascertained needs, not to give effect to the wishes of any particular benefactor.

And finally, what as to the spread of the influence of the University ? Primarily this must depend on those who as professors, teachers, office-holders and so forth, represent the University and manifest its vitality, and next on the students. It is they and in particular the graduates who go forth into the world as the product of our University. With them ultimately lies the reputation of their University ; and herein there is the necessity of what sometimes seems to the

student to be a certain harshness—an unwillingness to confer degrees although the students desperately need them. So long as examination remains the ultimate test, that test must be fulfilled strictly and fully. Whatever the disappointment to an individual student the necessity is paramount that the conditions laid down be fulfilled. Otherwise there must be laxity ; and with laxity there comes weakness ; with weakness deterioration ; and with deterioration, the death of influence for good.

Nevertheless there is nothing in the whole range of our duties which gives us more anxious thought, nothing we wish more earnestly than the welfare of our students and graduates ; and our desire now and always is that in the years to come there may fall upon them the benediction not only of studious effort but of right living.

His Excellency the Chancellor then said:—Before dissolving this Convocation I should like to say one word, and one word only, to this large and representative gathering of Bombay students and citizens. Some of you may very probably have thought that it would have been a desirable thing for your Chancellor on this his first appearance to have delivered an address to you this afternoon, but I did not feel justified in taking that step on this occasion, for this reason that after such short experience of your educational and University life I thought it was hardly fit that I should deliver an address to you to-day. I am bound to say, and I think you will agree with me that my decision was thoroughly justified in delegating that duty to the Vice-Chancellor. Let us hope that next year when your Chancellor has more experience of your educational and University life he may have something—I

hope of an interesting and useful kind—to say to you. I need hardly say that it is a real pleasure to me to have this opportunity of admitting so many candidates to their degrees, and to have the opportunity of heartily expressing the wish that their future lives may be brilliant to themselves and useful to their country,—and also to congratulate those recipients of medals who came before me this afternoon and who have received a reward of merit for good work in the past year. My last word to you shall be this. This is my first official appearance into your University life, and I sincerely trust that while I am your Chancellor that University life may be made more efficient and that I may be given many opportunities of promoting education and character in every student in the Bombay University.

His excellency the Chancellor having then declared the Convocation dissolved, the assembly rose and remained standing during the retirement of the procession of the Chancellor, Vice-Chancellor and Fellows, which observed the order of the entering procession reversed.

EDUCATIONAL TOPICS.

THE TEACHING PROFESSION IN ENGLAND.

Lovers of Indian Education have often had to regret the absence of unity and efficient organisation among the members of the teaching profession in the country. An idea of the power behind the corresponding classes in England can however be gathered from the interesting accounts we are having of the recent strike of teachers in Herefordshire. All the Elementary teachers in the county have struck work, as they considered their salary too small. No less than sixty-four schools

have had to be closed as the authorities find it impossible to run the schools without them. We do not propose holding up to admiration, the terrorism practised by the teachers on strike, to prevent the authorities from working the schools with other teachers, but we are anxious to draw attention to the support they have been receiving from the National Union of Teachers. Sir James Yoxall, M. P., the General Secretary says : "The position is that sixty-four schools are totally closed. In ten others a semblance of work is going on, but the teachers are so few, or so unable to manage, or both, that the proceedings resemble a pantomime. I have no doubt as to the upshot of the struggle—the Herefordshire Education Committee will, one way or another, have to yield. They will either come to terms with the National Union of Teachers or the Board of Education must step in. We are standing quite firm and solid, and are prepared to go on for months. *The teachers who are out are being paid their full salary, and are guaranteed it for five years.* We have a large sustenance fund and a membership of 88,000. We were never stronger." When will the teaching profession in India organise itself into such a strong body ? The need for it is undoubtedly greater in this country.

THE VERNACULARS AS MEDIA OF INSTRUCTION.

To those who persist in arguing that Vernaculars should be the media of instruction even in the higher classes, we cannot say anything better than what is contained in a valuable note in the current number of the *Modern Review*. The numerous practical difficulties in the way of adopting the suggestion, even if it were desirable, are pointed out in a spirit of stern impartiality. We will content ourselves with referring to two paragraphs in the article :

"Many elementary English text-books are written in England, by men who are authorities in their subjects. This is not the case with our

Vernacular text-books. Moreover our Text-book Committees exercise a sort of political censorship over all books submitted to them. Favouritism and undesirable influences of other descriptions are also not unknown. There are also the Press Laws. As in the opinion of Sir Lawrence Jenkins, the Chief Justice of the Calcutta High Court, even healthy literature is not safe from their clutches, they cannot but have a depressing effect on the growth of literature in general. In judging whether we ought to vote for the vernaculars, the above considerations ought not to be lost sight of."

"Supposing University education also were given through the Vernaculars where are the text-books? Supposing men were forthcoming to write such text-books, who would meet the cost of publication? For there is scarcely any vernacular in which text-books on the higher branches of the sciences and arts would sell in sufficient numbers to be remunerative to authors and publishers. One reason that has been repeated by the officials *ad nauseam* to justify the slow spread of education is the want of money. Would sufficient money be forthcoming for the preparation of University text-books in various subjects and many tongues?"

CONSCRIPTION IN EDUCATION.

A very valuable suggestion is made by a contributor in the current number of the *Modern Review* on the subject of Conscription in Education. An argument of some weight which has often been brought forward in this country against the Government's embarking upon a policy of compulsory primary education, is the paucity of teachers. The example of Japan, where when necessary, the shade of a tree has been used as an elementary school, and a man who has picked up the three R's as a teacher, is sufficient refutation of this theory. But the somewhat novel suggestion is put forward by the correspondent that the principle of conscription may be introduced into education, not

only by compelling every child of school-going age to be at school, but by compelling every literate person to be a teacher for a prescribed time. We are not confident of the feasibility of putting the latter suggestion into practice—a large percentage of the literate population being unfit for anything like the work of teaching, and a number of cultured citizens being too valuable to be wasted on the work of elementary education in schools. But who would hesitate to say that the plea is in a much holier cause than military conscription? One would sooner have an army of teachers to spread enlightenment in the land, than an army of soldiers to cut others' throats.

EDUCATIONAL ADVERTISEMENT IN AMERICA.

People on this side of the world have often envied the phenomenal progress that America has made in education, but they must be anxious to steer clear of some interesting developments in that continent, revealed in a recent report of the *Carnegie Foundation for the Advancement of Teaching*. Several bogus Colleges and bogus Universities have come into existence, and rival each other in their boisterous advertisements. What they lack in solid worth, they expect to compensate for, by their flaring announcements. It is amusing to read of the frantic efforts made by these sham Universities, to catch the attention of the public and impress their worth upon them. Here are a few typical assertions:

"The standard of the University in its under-graduate schools is higher even than that proposed by the National Associations of State Universities and of the Carnegie Foundation. Our graduate non-resident schools too, if properly understood and valued, are at least as high as any graduate schools in America, whether resident or non-resident."

"A graduate completing our graduate non-resident courses, will not fail in competition with the

graduate students of Berlin, Oxford and Harvard Universities."

Such a commercial method of puffing up Universities cannot but meet with unqualified disapproval and whatever lessons the East may learn from the educational progress of the West, we hope this will not be among them.

THE PUBLIC SERVICE COMMISSION.

Professor Paranjpye's evidence before the Public Service Commission drew attention to some valuable points which are not often borne in mind. His evidence is characterised by a remarkable spirit of frankness, which makes him speak the truth, however unpleasant it may be to his hearers. All those who have regretted—in the interests of Indian education itself—the almost utter exclusion of Indians from the higher ranks of the Educational Service, will endorse every word that has fallen from Professor Paranjpye's lips. He has no hesitation in declaring that the work of higher education in India can be carried on as efficiently, or even better than it is now, with a purely Indian agency. He has done well in exploding the usual fallacy that it is only an Englishman that can teach English. It is absurd to attach such exaggerated importance to accent and pronunciation, especially in view of the great varieties of it, that exist in different parts of the English-speaking world. As for the preference that is sometimes shown to the European Professor on the ground of athletic efficiency, it is not often the case that the qualification exists and secondly, "boys in the College are old enough not to mistake good wrestling in the gymnasium for a lucid treatment of a philosophic problem." The Professor drew attention to a very serious evil, when he referred to the effect produced on the minds of students, by the racial bar among Indian and European Professors, preserved before their very eyes, under the authority of Government. "When as at present, every European member of the service is supposed to be

senior to every Indian Professor, however experienced the latter may be, and is paid at double the rate, perhaps for inferior work, the result on the observing student's mind can very well be imagined. The facts and arguments set forth by Professor Paranjpye more than prove his position, to the satisfaction of all but obstinate critics:

What I contend is that this European professoriate is not now necessary and that we can get equally good—even better—work done by Indian agency at the same cost. While the standard of pay that an I. E. S. man gets is considered meagre and consequently does not, we are told, attract the good Englishmen to the service, the same—or even somewhat lower—pay if not accompanied by galling racial distinction as between the European and the Indian will attract the very best Indians. In the sphere of learning racial distinctions should have no place. Indians from time immemorial, have always shown a love for learning and teaching and reasonable prospects with the preservation of proper self-respect will get the best Indians into the educational line. A proper system of recruitment will make use of this love of Indians for learning and I think we ought to devise such a system that within a generation the regular Educational service shall be manned entirely by Indians as far as the present college teaching up to the B. A. or M. A. is concerned. After 50 years of English education in this country it would be curious indeed, if we have not produced sufficient material for the purpose.

EXPANSION OF INDIAN UNIVERSITIES.

Sir Alfred Hopkinson's recent address, reproduced in *extenso* elsewhere in this number, to the Fellows of the University of Bombay, embodying his observation of University education in the Presidency, has some valuable suggestions for the expansion of Indian Universities in general. Except in the Presidency of Bengal, we are afraid the Universities are not sufficiently in touch with the cultured members of the community, either

for the Universities to profit by their ideas, or for the people to be inspired by a genuine love of study and advanced research. They have been exhibiting a certain narrowness of spirit, which must be liberated at the earliest opportunity for the Universities to make any real progress, and serve as centres for the diffusion of enlightenment and culture in the country. As Sir Alfred Hopkinson said "The University should exercise an influence on the whole community in which it is placed, on those who are not actually members of it, as well as those who are. It must help to inspire a more genuine interest in intellectual pursuits, in learning and in science, avail itself of the knowledge of those outside its teaching staff and even its graduate body who can contribute to the advancement of learning and science." The following three main defects of the Bombay University as pointed out by Sir Alfred Hopkinson unfortunately exist in Madras also and demand the immediate attention of educationists here :

I. The absence of direct communication with the University of those who have the conduct of the secondary schools.

II. The varying standard of the Matriculation examination itself and in some respects the inadequacy of the standard required.

III. The existence side by side of two examinations one the Matriculation examination—recognised for admission to College and University course and not by Government and the other recognised by Government and not by the University.

EDUCATION IN THE LOCAL LEGISLATIVE COUNCIL.

The non-official members of the Local Legislative Council have once more displayed their interest in education by moving various resolutions on the subject. While commending the zeal in their treatment of the subject, we are afraid, they have not always shown the knowledge

desirable in the discussion of such questions. The Hon. Mr. Ramachandra Row was making rather a large order on the activities of Government, when he moved for the appointment of a committee to consider the promotion of scientific literature in the vernaculars. When will our representatives in the Council learn that the appointment of a committee is not an infallible remedy for all ills on earth? Some of them seem to look upon the prescription as a Universal panacea and no practical good can result until that notion disappears from the Legislative Chamber.

The Hon. Mr. Stone has turned a new leaf in the educational administration of this Presidency, by the tact and sympathy with which he has been meeting the popular demands in the Council. The Hon. Mr. B. N. Sarma's proposition about the compulsory study of the Vernaculars in the School Final Course met with some approval from Government and was therefore withdrawn. We expect the assurance extends to the compulsory study of text-books for vernacular composition, and that is quite a good way of solving the difficulty, without interfering too much with the School Final Course which has not yet been allowed sufficient time to show its best results.

As has been pointed out in these columns, it is neither possible, nor desirable to employ the vernaculars as the media of instruction in the higher classes of the Secondary School and we are not sorry the Hon. Mr. B. N. Sarma's resolution on the subject was negatived. The adoption of the suggested course, as any educationist will be able to point out, will lower the standard of efficiency in English, prevent specialisation in any degree, and render it almost impossible to begin any advanced study through English in the College classes. We wonder if the mover had any responsible educational opinion behind his resolution—it is not likely such a mistake could be committed with the approval of the profession. We appreciate the courage of

the Indian members who opposed it, and we have no doubt that the Hon. Mr. Pittendrigh could not have followed any other course than the expression of disapproval, as his long and varied educational experience, must have convinced him of the utter futility of such a course.

The Hon. Mr. V. S. Sastri was very well-advised in asking for the abolition of the penal fees imposed on students when seeking admission into the higher classes of a recognised Secondary School, after having studied in schools of the elementary grade. We are glad the Hon. Mr. Stone did not make any attempt to defend such an obnoxious rule, and his hesitating apology for it must have received a severe shaking by the Hon. Mr. Pittendrigh's argument that if a rule was not causing any serious harm, but was irritant and did not accomplish a corresponding amount of good, that legislation was bad legislation and should if possible, be removed.

It was strange, the Government should have refused the simple request of the same member, for a publication of the scheme relating to the reorganisation of the Inspecting Agency. It may be the Government's proposals are very wise, and well-conceived, but no useful purpose is served by sedulously keeping up an atmosphere of Eleusinian mysteries about them. It is neither statesmanship nor practical wisdom, for it rouses unnecessary suspicion, lessens the value of good things when they are given, and encourages the spirit of adverse criticism.

As for the Hon. Mr. A. S. Krishna Row's resolution about a committee for a consideration of the expansion of elementary education, we have only to repeat our remarks on the similar proposal of the Hon. Mr. Ramachandra Row's and add there must be some limit to the subjects on which even the non-official members of the Madras Legislative Council can advise. If all such proposals are acceded to, we are afraid, the

Presidency will soon be covered by a network of committees, without leaving any room for the peaceful citizens to pursue their usual and more useful avocations.

THE CIVIC SPIRIT IN EDUCATION.

India has yet to awake to the need of education in citizenship in schools and colleges. When Herbert Spencer defined education as preparing a man for "complete living," he certainly contemplated instruction in the privileges and responsibilities of citizenship. The twentieth century is pre-eminently an age of political life and it seems futile to think of preparing a man for life, without giving him any training in political knowledge. Mr. F. J. Gould has therefore done well in drawing attention to this grave void in the current number of the *Indian Education*. Indifference to the commonweal and an inability to appreciate the need of subordinating individual interests to the public good seem to have characterised the life of the East from the dawn of History, and if a system of education working under the auspices of such an energetic civilisation from the West, will not make provision for removing them the opportunity will never come.

THE VICE-CHANCELLOR OF CALCUTTA.

The news of the retirement of the Hon. Sir Ashutosh Mukherjee from the Vice-Chancellorship of the University of Calcutta, will be received with regret all over the country. His regime was an epoch of extraordinary progress in all directions, and if the University of Calcutta is to-day occupying the premier place among the Universities of India, much of the credit must go to the energy and enthusiasm of this distinguished son of Bengal. The active association of the people with the work of the University, the encouragement of Indian talent and the rousing of an interest in University affairs among the monied aristocracy of Bengal, such are some of the directions in

which his work has borne ample fruit already. The Government has selected an Indian non-official this time for the high office, and we hope the Hon. Dr. Sarvadhikari will be able to do an equal measure of good to the University. He has only to keep before himself, the high ideal of his illustrious predecessor in office.

* * *
A PROFESSOR.

EDUCATION IN THE MAGAZINES. (INDIAN.)

Mr. S. Vaithyanatha Iyer on The Vocation of the Teacher.

We extract the following from an address delivered by Rao Sahab S. Vaithyanatha Iyer, Headmaster, Government School of Commerce, Calicut, at the prize-distribution ceremony of the Talora Elementary School:—

It is sad that in modern days the office of teacher is not regarded as on a level with other professions. Anyone is thought good enough to be a teacher, and naturally, therefore men best qualified for it are not drawn towards that profession. But, all do realise that the office of teacher is the most sacred and most important to the nation, because it is to build the character of boys and girls who will be its future citizens. This formation of character is not to be regarded as merely a by-product of education, but should be put in the forefront and looked upon as the primary aim and test of the function of education. The average parent in India in these days is not in a position to deal with this complex question of giving his children the proper home training in the matter, and therefore it falls to the duty of the teachers in this country all the more to study and to shape the lives of the young ones placed in their charge. Now, if this result is to be efficiently achieved, the important qualification for a teacher is not mere high University qualification or heavy learning or passing the departmental tests but he should be full of love for his work and for his boys—a quality which should be a strong trait in him, which he should show in his daily life, and which alone will make him worthy to be a teacher. A teacher full of love and sympathy will attract boys and make their work and school life a pleasant one. Only

those are fit to be teachers who work not merely for the salary they get, but those to whom teaching is a holy duty and the greatest of pleasures. To a kind and sympathetic teacher, boys will come with their difficulties and never conceal their weakness. A teacher must rule the boys and maintain discipline by love and patience and not by fear. He should be an object of reverence and devotion to his pupils. He should ray out upon them a continual stream of purity, gentleness and love. I look upon corporal punishment of any kind as very objectionable and it is a most cowardly act if one resorts to it in dealing with boys. It requires no extraordinary heroism, talent, or capacity to do so. Some boys may be strong, self-willed and assertive. They should be sent more to the play-field where they would find vent to their energies, and the teacher should know how to deal with boys of different temperaments, so as to gently and gradually transform their lower nature into the higher. He who has forgotten his childhood and lost sympathy with young boys is not a man who can teach or help them. If the teacher is only full of this real love for the boys, the question of punishment will never arise. Fear will only poison the relation between the teacher and the children.

In fact, all through, school discipline should be based on the good of the boys, and not on the idea of saving trouble to the teacher. A teacher who tries to frighten his boys into doing what he wishes by punishment or threat, does not see that they only obey him while he is there and that as soon as they are out of his sight they will pay no attention to it and may even take pleasure in breaking it because they will at heart dislike him. But, if he draws them to do what he wants because they love him and wish to please him, they will keep his rules even in his absence and so make the work easier. Instead of developing fear and dislike, the wise teacher will gain his ends by calling forth their love and reverence, and strengthen all that is good in them by helpful sympathy, gentleness and patience. Children's hearts are a fertile soil full of beautiful sproutings of love and devotion and faith, and you must not risk the killing of those by handling them roughly, hoping that in manhood they will sprout forth again. For, if you trample the seedling, it may get crushed and cannot grow in later days. In fact, all the activities of school life should be made into channels through which affection can run between teacher and pupil and the school should have an atmosphere of bright cheerfulness and lively activity about it, which

depends entirely on the attitude of the teacher to his work and to the boys in his charge.

Education and Citizenship.

by Mr. A. G. Fraser.

The value of education as a means of producing, not merely men of learning, but able, well-equipped citizens of honest purpose and high ideals was dealt with in a lecture on "Education and Citizenship" given at the Calcutta University Institute, by Principal A. G. Fraser, of Trinity College, Kandy. The Hon. Mr. W. W. Hornell, Director of Public Instruction, Bengal, presided, and, in addition to a large number of students, there were also present the Hon. Mr. Cumming, Chief Secretary, Government of Bengal, and Dr. Devaprosad Sarvadhikary, Vice-Chancellor of the University.

The lecturer, in the course of his remarks, laid stress upon the desirability of introducing a practical element into education and emphasised the importance of secondary schools, which he pointed out, were not intended to be mere feeders of Universities, but, so far as their scope allowed, institutions self-contained and self-sufficient, devoted to the purpose of training citizens who would be an acquisition to the community, at large.

In most schools the pupils were divided into two classes, those who were preparing for a University course and those who intended to seek employment at the close of their College career. Special attention should be paid to the particular requirements of these two divisions, for the man who desired to enter the world of commerce needed more through training in a few subjects which would be of real use to him than did his fellow-student who was going up to the University, where he would have every facility for continuing his studies. In order to turn out men able and ready to fight the battle of life it was necessary to teach every subject more and more upon practical lines, otherwise students would never understand how to apply their theoretical knowledge. It was also highly important that the value of manual training should be recognised by educationalists. Boys so trained understood not only the whole but every part of the whole.

Most schools in the East failed to pay proper attention to commercial education, in fact it was almost despised. But it should be remembered that in the present day the man of commerce

was much more important, as a rule, than the man who had entered a profession. This fact had been realised to Japan, where University students were given every facility and encouragement for studying the ethics of commerce. Continuing, the lecturer said he thought that they were trying to cover too much ground in Indian schools, so far as the student who was going into commercial life was concerned. For example, instead of trying to teach a boy the whole history of England, it was far better to give him a thorough grounding in a particular period, and to also train him in the main points of contemporary history. Another point to be remembered was that in training boys for employment they were lessening the number of students in the Universities, and so enabling them to get into closer personal touch with their tutors.

After dealing with the question of hostels, which, he remarked, afforded splendid opportunities for the training of citizens, Principal Fraser dealt with many minor details of College and University life, and pointed out how the best results might be obtained.

Mr. L. D. Swamikannu Pillai on The Importance of Education.

At the recent prize-distribution of the Madura College, the Hon. Dewan Bahadur L. D. Swamikannu Pillai delivered an instructive speech from which the following is extracted:—

He would examine with them briefly the importance of education and what part young men of to-day were destined to play in it and why it was that methods of education had changed to what they saw them now to be. As they all knew the aim of education was simply to fit young men for the part they had to play in the world. The parents had every aim to make their sons better if possible, than themselves and the great Thiruvalluvar had said that the happiness of the Father was to hear it. He said, "here is a son that excels the father" ? That was the ambition of the parents and the ambition of the educator was to co-operate with parents as far as possible. One might ask how, if the aim of education had been the same in all ages, the methods should so considerably differ. To fit a young man for public life was an object very briefly described yet it meant a great deal. They knew that entrance into public life meant sharing in all the duties of citizenship. It meant along with other positive

duties and obligations the avoidance—and that was a matter that parents as well as educators were particularly anxious about—of what he might call public vices. What were the public vices which they were anxious that young men should avoid? Not only the vices properly so called, of intemperance and immorality but all the other vices to which modern times and circumstances of modern life had induced unfortunately a large portion of Mankind—dishonesty in all its forms, industrial dishonesty, commercial dishonesty, professional dishonesty, the demon of competition, the evils of gambling, in all their forms speculation, litigation and so forth. They were anxious that young men should avoid these temptations and it no doubt was necessary that their school life and their college life should in a measure prepare them for the battle of life.

Referring to the Cultivation of a Hobby, the Chairman observed that there was another point to which he drew their attention, young men studying for University degrees, should impress upon themselves the necessity for studying some particular aspect of a science or an art. Considering the variety of subjects to occupy the mind in and outside the University and College and the moments of leisure which they would surely have, it would be advisable for them to take an interest in the study of Animal and Plant life, Archæology, Fine Arts, Literature, etc., which would keep them intellectually occupied. There was another important point to which he liked to draw their attention and it was reading. There was a difference between the students in this country and those of the Universities elsewhere. Their reading was either too much confined or too vague to be useful, and educational institutions did their best to provide their students with proper libraries.

In conclusion the Chairman exhorted the students to form useful habits of study, habits that would remain with them all their life and suggested the formation of Reading Rooms, Libraries and Museums at each of the district head-quarters, well stocked with works on history and the antiquities of the various districts.

Chemistry and Industry.

by Mr. P. Neogi, M.A.

Professor Panchanan Neogi, M.A., delivered an interesting lecture on "Chemistry and Industry" in the rooms of the Indian Science Association. Prof. Neogi began by saying that it required three men to start an industry, viz., the expert,

the man of business and the capitalist and his lecture would be devoted to the "expert" in relation to chemical industries. There are many industries which may be called "Chemical" as they are almost entirely dependent on the development of pure chemistry. The more important of these chemical industries are given in the following list:—

- (1) Manufacture of metals like gold, silver, copper, aluminium, tin, lead, mercury, etc., and alloys such as brass, bronze, galvanised iron, etc.
- (2) Manufacture of acids such as sulphuric, nitric, hydrochloric, boric, carbolic, etc.
- (3) Manufacture of alkalis such as ammonia, caustic, soda and potash, sodium carbonate, cements, lime, etc.
- (4) Manufacture of manures such as superphosphates, ammonium, salts, etc.
- (5) Manufacture of glass.
- (6) Manufacture of soaps.
- (7) Tanning.
- (8) Manufacture of paints, colours, dyes—organic and inorganic.
- (9) Bleaching and dyeing, paper, cloth, silk, wool, jute, etc.
- (10) Manufacture of coal-gas.
- (11) Coal-tar industry.
- (12) Manufacture of medicines and chemicals.
- (13) Manufacture of explosive substances for the Army and Navy.
- (14) Manufacture of refined sugar and salt.
- (15) Manufacture of alcohol, spirits and wine.
- (16) Manufacture of matches.
- (17) Manufacture of artificial chemicals such as camphor, India-rubber, indigo, alizarin, flower and fruit scents, celluloid, saccharine and other substances too numerous to mention.

Prof. Neogi proceeded to refute the popular fallacy that it is useless to study hydrogen, oxygen and other substances belonging to pure chemistry and pointed out that the development of chemical industries is absolutely dependent on the development of the pure science and that the chemist's modest laboratory is the home in which every experiment relating to the development of any branch of industry should first see the light. At the same time it must be remembered that minute and infinite details have been worked out in every industry and hence the necessity.

The principle reason why chemical industries are wanting in India is that hitherto our Universities have sadly neglected technological studies and every effort should be made, and in fact is being made, to establish at least one fully-equipped technological college teaching a number of the more important chemical industries. Prof. Neogi concluded by saying that the technological chemist in order to be really an expert should also have factory experiences.

H. E. Lord Carmichael on Universities.

The following is an extract from the interesting and valuable speech of H. E. Lord Carmichael at the recent Convocation of the Calcutta University.

His Excellency the Chancellor has reminded us that Universities, like other institutions, must move with the times. Even the oldest Universities, those where ancient customs and ancient precedent have taken firm root are moving. Our University has moved and it will continue to move. We who wish her well, are anxious—none is more anxious than Sir Ashutosh is to take our Chancellor's advice to watch and closely study educational movements in the western world and thus learn to judge better what the movement ought to be. But just for that reason we are deeply grateful to the great men of the past who guided the movement in the beginning and to the men of the present like our Vice-Chancellor and like Dr. Deva Prasad Sarbadhikary who is soon to be Vice-Chancellor, for what they have done to guide it since, Mr. Vice-Chancellor, you finished your speech with a prayer for the welfare of your 'Alma Mater' for whom you have done much and for the welfare of that greater parent divinity to whom your University as you expressed it—a mere handmaid, your beloved motherland—ladies and gentlemen we can all sympathise in that prayer. We all know what love for our motherland is, and those of us who have thought of such things at all know that we can do no better service to our country than by improving our Universities, so building up and strengthening the intelligence and the character of our students who shall think for our country and work for her. Bengal is, for most of you, your motherland for me and for others of you, our motherland is another country whose welfare cannot be complete if the welfare of Bengal be in any way enfeebled. Surely then it behoves us all to do our best to help this University of Calcutta, enriched by the liberality of generous citizens like Sir Taraknath Palit and Dr.

Rashbehary Ghosh—eagerly sought after by all your young men who desire knowledge—and guided and fostered by the Government of India—which did so much for the University while Calcutta was its head-quarters, and which is still no less interested in the University now. Surely it behoves us to do all we can to secure that the University shall continue to play the part in the intellectual development of our province in rearing up citizens to work for Bengal as Sir Ashutosh has worked, to seek after truth; to add to knowledge, and so to add to the glory of the British Empire which depends on the happiness and welfare of all its citizens whatever part of that Empire be their motherland.

(FOREIGN)

Sir Edward Grey on Character.

Lord Haldane delivered the annual Creighton lecture at University College, London. The lecture was founded in memory of Bishop Creighton, whose widow was among the large audience. The Lord Chancellor dealt with 'The Meaning of Truth in History' and insisted that the historian must also be an artist, able to examine even apparently isolated events in their due proportion to the life of the period. Sir Edward Grey, K. G., who presided, also spoke on the functions of the historian, and suggested certain main objects which history should achieve.

Sir Edward Grey said that the lecture was one of the series associated with the memory of Bishop Creighton. He was one of those who owed very much to Bishop Creighton's encouragement and his friendship, and to all who knew him well he remained in their memories as one of the most brilliant, stimulating, and quickening personalities they had known.

He had received various suggestions as to what he might say on the subject of the lecture. He had been told that he might explain how diplomats, by their inveterate habit of telling the truth in their own day, were doing all they could to make the work of the future historian easier. He had always said that the difficulty, so far as the diplomatist was concerned, was not to tell the truth, but to get it believed when one had told it. A mere accumulation of facts and records could as little, without interpretation, give a true impression of the life, the spirit, the work, and the thought of a past age as a drawer full of dried and unmounted skins could give an impression of the life of birds in the air, on the earth, or on the water.

What they looked for in history, then, was not a mere accumulation of facts, but the interpretation of facts. Two things he endeavoured to get from history. One was some help in understanding the time in which they lived themselves. In their own time, in their own age, it was so difficult to see the wood for the trees. But the historian could show them a past age stripped of all the time had shown to be trivial, irrelevant, or transitory in that age and could bring out what the life of the age really was, what the point of view was, what people thought really mattered, what was the work they were doing which was going to be lasting and permanent, what was the real tendency of the age. And having seen that down with regard to a past age, they might be able to form a juster opinion of what was trivial in our own time, and what was the permanent work our own age was doing. The more they did that the more likely were they to make their own efforts in public life not mere confusion and muddle, but some permanent contribution to the pattern and work which our own generation was doing and which would be recognised by future historians as distinctive.

The other thing they got from history, as it was found in Plutarch's Lives, was the lesson to be learned from the conduct of prominent and great individuals—the limitations in public work of character which was not supported by sufficient intellect, the failure even of the greatest intellect when it was not accompanied by sufficient qualities of character, the comparative ineffectiveness of mere brilliant qualities in an individual unless he had also constructive qualities—the way in which great and prominent men in past history had borne themselves in adversity or success, the qualities by which they succeeded or failed. The contemplation of all that in history was one of the most potent agents in reflection to help them in their own lives and their own public work. Therefore, if history was to be true, it must be also lively in the sense of representing the life of individuals in past generations.

THE UNIVERSITIES.

MADRAS UNIVERSITY.

M. A. Degree Examination, 1914.

BRANCH II-A.—PHYSICAL SCIENCE (21 CANDIDATES.)

The following are the Register numbers of the candidates who have been declared to have passed the above examination:—

Second Class.—44, 56, 59.

Third Class.—43, 45, 47, 48, 49, 55.

BRANCH III-A.—BOTANY (5 CANDIDATES.)

Third Class.—67.

B.A. (Honours) Degree Final Examination, 1914.

BRANCH II-A.—(PHYSICAL SCIENCE).

First Class.—19.

Second Class.—16, 21, 31, 32, 34, 35, 38, 39, 40, 41, 44, 45, 46, 47, 48, 49, 51, 52, 53, 55, 56, 57.

Third Class.—17, 22, 33, 36, 37, 42, 50, 54, 58, 59.

RECOMMENDED FOR THE B. A. DEGREE.—20

CALCUTTA UNIVERSITY.

Vice-Chancellorship.

After all the Calcutta University is not to have a paid Civilian Vice-Chancellor. That great educationist and public man Dr. Deviprasad Sarvadikary is to succeed Sir Asutosh Mukerjee. The University has made very considerable progress under the Vice-Chancellorship of the latter, and Dr. Deviprasad will improve on the legacy left him by his distinguished predecessor.

Convocation.

At the annual Convocation of the Calcutta University, Lord Carmichael, who is Rector of the University, presiding, Sir Ashutosh Mukerjee conferred degrees on over two thousand candidates on the 28th ultimo.

DISTINGUISHED GRADUATES.

Following is a list of the most distinguished graduates turned out by the Calcutta University during the year 1913-1914:—

PH. D.

Ramdas Khan,

M. A.

PRESIDENCY COLLEGE, CALCUTTA.

(Group B.)

Sunitikumar Chattopadhyay (Kshetramohan Chatterjee Gold and University Gold Medallist).

History.

Hemchandra Raychaudhuri (Gold Medallist).

Political Economy.

(Group A.)

Jitendraprasad Niyogi (University Gold and Cobden Silver Medallist).

Mixed Mathematics.

Surendranath Sen (Gold Medallist).

Satyendranath Modak (Silver Medallist).

DACCA COLLEGE.

History.

Pareschandra Mukhopadhyay (Silver Medallist).

SCOTTISH CHURCHES COLLEGE, CALCUTTA.

Mental and Moral Philosophy.

Susilkumar Maitra (Gold Medallist).

Kalidhan Chattopadhyay (Silver Medallist).

UNIVERSITY STUDENTS.

Sanskrit.

Sibadas Bandyopadhyay (Hemchandra Goswami Gold Medallist).

(Group C.)

Kshemadakinray Ray (Golachandra Ghosh Gold Medallist).

Pali.

(Group A.)

Benimadhab Barnya (Gold Medallist).

NON-COLLEGIATE STUDENTS.

English.

(Group A.)

Regina Gaha (Gold Medallist).

Political Economy.

(Group A.)

Kisorilal Chattopadhyay (Silver Medallist).

New Affiliations.

Under section 22, read with section 21, sub-section (3), of the Indian Universities Act, 1904

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(VIII of 1904), the Government of India have been pleased to order that with effect from the session commencing in June 1914—(a) the Presidency College, Calcutta, shall be affiliated to the Calcutta University in Botany to the B.A. and B.Sc. Pass and Honours standards; (b) St. Paul's Cathedral Mission College (formerly C. M. S. College) Calcutta, shall be affiliated to the Calcutta University in the following subjects to the following standards:—

Chemistry, I.A. and I.Sc.; English B. A. (Pass and Honours); Sanskrit, B. A. (Pass); History B. A. (Pass); Economics, B. A. (Pass); Philosophy, B. A. (Pass); Bengali Composition, B. A. (Pass).

PUNJAB UNIVERSITY.

University Member of Council.

Sir P. C. Chatterjee, C.I.E., has been elected Member of the Punjab Legislative Council by the Members of the Senate and Honorary Fellows of the Punjab University.

ALLAHABAD UNIVERSITY.

Fellowship Appointment.

His Honour the Chancellor of the Allahabad University is pleased to appoint the following gentleman to be an Ordinary Fellow of the said University:—

Mr. P. S. McMahon, M.Sc., B.Sc., Professor of Chemistry, Canning College, Lucknow.

Vice-Chancellor Appointment.

The Hon. the Chancellor of the Allahabad University is pleased to reappoint the Hon'ble Dr. Sundar Lal, Rai Bahadur, B.A., LL.D., C.I.E., of Allahabad, Vice-Chancellor of the Allahabad University, with effect from the 1st April.

It is notified that under section 21, clause 4 of the Indian Universities Act, the Government has been pleased to sanction, subject to certain conditions, the affiliation to the Allahabad University, of the Kayastha Pathshala, up to the B. A. standard in English, Persian, Sanskrit, History and Mathematics, provisionally for two years, with effect from July.

PATNA UNIVERSITY.

Report of Committee.

The Government has published the report of the Patna University Committee for opinion. The Lieutenant-Governor in Council will con-

sider the report on 1st May before which suggestions should be submitted. There are eleven notes of dissent appended to the report. The Beharee members have opposed the introduction of the School Final Examination. The report states that the University Colleges will be teaching and residential and admit a number of non-collegiate students also. There will be the Patna College, the Bisheshwar College, (the present Behar National College), a Missionary College, besides Law and Sanskrit colleges. The mofussil Colleges which have all been made Government colleges will be affiliated to the University for examination purposes. There will be a paid Vice-Chancellor. Students after passing the Intermediate Examination will be admitted into the Law College for a three years' course for a degree in Law. Science teaching in B. A. will be concentrated in the University College and also the Cuttack College.

TECHNICAL EDUCATION.

TYPEWRITER TOPICS.

TYPEWRITER RACING.

This is the heading of a neat and attractive folder sent to us by Messrs. Ramsay & Sons, the well-known Stationers and Typewriter Dealers of Madras. In the frontispiece is given in half-tone block, a picture of Miss Bertha G. Frost who is in the employ of the New York Public Service Commission. This girl, on her own responsibility entered the Speed Contest at the 1912 New York City Business Show, and competing against trained specialists wrote on an L. C. Smith & Bros.' Typewriter 98 words a minute for 30 minutes. It is said that some years ago manufacturers of bicycles paid high salaries to young men of great muscle and endurance to ride their particular make of machine in races. The public was asked to believe that the reason "A" won the race was on account of the superior quality of the bicycle he was riding. This might have been true if "A" had always ridden the same make of bicycle, but when "A" joined another employer and rode another make and won the race, the public began to realise that it was the man who raced and not the machine. In the same way certain Typewriter Companies employed exceptionally fast operators and placed them under competent instructors with a view to advertise their records—so many words a minute—as due to the operator. It is an absolute fact that all of the Standard Typewriters are capable

of a speed much greater than any human being can run them. Messrs Ramsay & Sons offer this booklet free to everyone who sends them a half anna stamp to cover the postage.

THE BOMBAY COLLEGE OF COMMERCE.

The work of the Government College of Commerce in Bombay is now in full swing and at the temporary premises in Hornby Road. There are nearly 100 students receiving tuition in the various subjects dealt with at the College. There were over 300 applications for admission to the College, but for the first year it was decided to confine the number of students to 100, and it will really not be raised until an adequate building is provided for the College and the institution is thoroughly set on its course so that it will be able to supply the full demand for commercial education. The object of the College of Commerce is to give to Bombay what similar Colleges provide in other countries and in addition to being an educational medium for the youth of the City, it will incidentally raise the standard of proficiency amongst young men going into commerce. The prospectus which will be issued shortly states that the object of the College is to furnish young men embarking on a business career with a University education of such a kind as will assist them by deepening and widening the understanding of industrial and commercial conditions to rise to more important and responsible positions in their respective vocations. The principal subjects that will be taken will be Political Economy, Mercantile Law, Practice of Accountancy, Economic History and Economic Geography.

BENGALI TYPEWRITER.

There has at last appeared a typewriter that will type Bengali, and the Bengali is advised that machines are now for sale at the Blick Typewriter Co.'s place at 8, Clive Street. Such a machine has long been required, and no doubt will prove a great convenience to Bengali speaking people. What is surprising is the fact that one Blick Typewriter will not only write Bengali but also English, and nearly every other language. The same machine will write Gujrati, and other Indian types are being prepared. As the prices of machines of different sizes range from Rs. 110 to Rs. 300 they should be within the reach of all.

Reviews and Notices.

FIRST LESSONS IN GEOGRAPHY, BY E. MARSDEN.
(MACMILLAN & Co.) 177 pp. 4s. 12.

The number of good books on geography written specially for Indian students is increasing and our regret is all the greater that the subject is being more and more neglected under the present School Final System despite the efforts of the Inspecting officers and a few enthusiasts in the teaching profession. The volume before us is the first of the three books on concentric lines to be published by Messrs. Macmillan & Co. for Indian schools. This book has the merit of the examples taken from the aspects of Indian phenomena and life. Among its distinctive features is the large number of physical and political maps, which are very clear, due to the fact that they contain only those names mentioned in the body of the text. There are also a large number of diagrams and pictures and among the latter the most attractive is the one on page 20 which aims at showing that the sun does not move over the earth but that the earth spins round and round opposite the sun. Technical terms have rightly been avoided in a book entitled the First lessons and the language in which the elementary notions are explained is very simple.

The book opens with a simple lesson on *Earth, Air and the Sea*. The lessons on *The Earth is a great Ball*, *The Earth is a Spinning Ball*, *Morning, Noon and Night*, *The Earth moves round the Sun* aim at explaining elementary notions of Astronomical Geography and the pupil reading these chapters is sure to feel considerable interest in the subject. The examples are all Indian. The child is introduced to elementary ideas of Relief and Natural Regions by a series of simple lessons on *Highlands and Lowlands*, *Rivers and Brooks*, and these are exemplified by a very clear description of the mountains and hills of India and its great rivers. We are again pleased to see that before describing the climate of a country, the author has put in some lessons on *solids, liquids and gases*; *heat expands*; *cold contracts*; *the air, how the earth heats the air*; *how the air moves*; *clouds, mist, dew and frost*. The elementary science teacher will find that the simple ideas he has been trying to elicit from the pupils by means of experiments are being reiterated with examples taken from Indian phenomena.

There are one or two slips which we expect the author to correct in the next edition. China is at present a Republic. Tibet is no longer treated as a plateau.

S. S. L. C. MATHEMATICS PAPERS WITH SOLUTIONS,
BY MR. R. VAIDHINADHA IYER, B.A., L.T. (THE
HIGH SCHOOL, SRIRANGAM.) Price 8 as.

Those who are deeply interested in the field of education will gladly welcome this book which is published by Mr. R. V. Iyer, B.A., L.T., Senior Mathematical Teacher, the High School, Srirangam, and former Professor of Mathematics, A. B. M. College, Ongole. We will all really be ungrateful to him if we do not thank Mr. Iyer for his valuable work. The book is simply an attempt to place in the hands of the Optional Mathematics students appearing for the S. S. L. C. examination, the S. S. L. C. Mathematics paper with solutions. The preface by the author bears ample evidence and unmistakable testimony to show what amount of trouble Mr. Iyer has taken for the compilation of this valuable work which I dare say must be in the hands of each and every student of Mathematics. Though this book is intended for students who have taken Mathematics as their optional subject and not for Elementary Mathematics students yet I venture to recommend it also to the latter who, I am sure, will derive the same benefit as the former, by carefully perusing the book. During the author's glorious career as a widely-reputed teacher he has noticed that students do not prepare his subject to his entire satisfaction owing to the severe want of some suitable books on the subject and so he has brought out this fine book without which no library will be complete. In the preface the author says: "The main feature of the publication is that principles to be applied in a particular solution have been first enunciated and illustrated and then the solution is begun with. Different solutions have been given wherever admissible, short ones having generally been placed first." For example for graphical methods for finding out $\sqrt{5}$ times given length the author has done his best to give something like half a dozen ways. At the end of this book he has given some hints and suggestions for answering papers. Those hints will be of immense help to the students in answering papers. The book is a fine one and the printers, the St. Joseph's Industrial Press, ought to be sincerely congratulated for the excellent get-up of the book. The object of the writer in reviewing this book is that the demand for the book is very great and that if the students do not order for the book earlier they may be sorely disappointed. The author is also about to publish a book similar to the above, named 'The S. S. L. C. and Matriculation Elementary Mathematics

Papers with Solutions.' Each book is priced eight annas and I hear that the price will be raised soon. I hope the students will order for the book earlier so that they may not be disappointed in purchasing it. A library without this book will not be complete. So I take this rare opportunity of expressing my profound thanks and high sense of appreciation for the labour of the author. Copies can be had from the author himself.

PUBLICATIONS RECEIVED.

Madras University Calendars. Vol. I, Calendar for 1914, Re 1; Vol. II. List of High Schools, etc., Re 1; Vol. III. Examination Papers for 1913, Re 1-8-0. Madras: S. P. C. K.

Shakespeare's Stories, by Constance and Mary Mand. London: Arnold. 1s. 6d.

Exercises in English, by F. W. Bawsher, B. A. London: Bell. 1s. net.

First Book of English Literature, by George Saintsbury. London: Macmillan. 1s. 6d.

A Study of Education in Vermont, Bulletin No. 7, Parts I and II. New York: The Carnegie Foundation for the Advancement of Teaching.

A Course of Practical English, by E. J. Bailey, B. A., A. C. P. London: Bell. 1s. 6d.

Sertum (A Garland of Prose Narratives), Book II, by J. H. Fowler and H. W. M. Parr. London: Macmillan. 1s.

A First English Grammar, by the Rev. J. E. W. Wallis, B. A. London: Bell. 1s.

Chancer's Parlement of Fowles, edited by C. M. Drennan, M. A., London: Clive.

Optional Mathematics Papers of the S. S. L. C. Public Examination, by R. Vaithyanatha Iyer, B. A., L. T. Trichinopoly: St. Joseph's Industrial Press. 8 as.

The Bible of To-day, by the Rev. Alban Blackiston, M. A. Cambridge: University Press. 3s. net.

BOOKS RECEIVED FROM

MESSRS. LONGMANS, GREEN & CO.

Introduction to Modern Inorganic Chemistry, by J. W. Mellor, D.Sc. 4s. 6d.

Longmans' Class Books of English Literature Series; Ruskin's King of the Golden River,

6d.; Lewis Carroll's Alice's Adventures in Wonderland, 8d.; Selections from Dickens, 1s.; Selections from Macaulay's History of England, 1s.; Tom Brown's School Days (Abridged), 1s.; Ballantyne's Coral Island, 1s.; Kingsley's Hereward the Wake (Abridged) 1s.; Kingsley's Heroes, 1s.; Marryat's Settlers in Canada (Abridged) 1s.; A Selection of Poetry for Schools, edited by John Thornton, M.A., 1s.; Lysbeth, by Rider Haggard, 1s. 6d.; Conan Doyle's Refugees, 1s. 6d.

Longman's Modern Mathematical Series: A School Course of Geometry, by W. J. Dobbs, M.A., 3s. 6d.; Exercises in Algebra including Trigonometry, Part I, by T. P. Nunn, M.A., D.Sc., 3s. 6d.; Exercises in Arithmetic and Mensuration, by P. Abbott, B.A., 3s. 6d.; The Groundwork of Arithmetic, by Margaret Punnett, B.A., 3s. 6d.; Exercises in the Groundwork of Arithmetic, by Margaret Punnett, B.A., Book I, 4d. Book II, 6d., Book III, 6d.

Longman's Indian Series: Matthew Arnold's Sohrab and Rustum and Balder Dead, edited by Egerton Smith, M.A., Re. 1. Stories from Deccan History, by Q. Sowerby, as. 12.

Piers' Plowman Histories, Junior Book VII, 2s.

Indian Educational Notes.

MADRAS.

Engineering College, Madras.—The following Government order has been issued:—The question of extending the scope and usefulness of the Engineering College, Madras, has been under the consideration of Government for some time past. As a first step in this direction, a scheme has been prepared and sent to the Government of India for providing the college with a new building at Guindy and improved equipment so as to admit of the expansion desired. At the meeting of the local Legislative Council held on 12th November 1913, the following resolution was proposed and accepted by the Government:—"That this Council recommends to His Excellency the Governor in Council that, having in view the necessity for training a large number of students in practical matters of civil, mechanical, electrical and sanitary engineering, with which they will be concerned in their future careers, the subjects for the engineering course of the College of Engineering be submitted by Government to a committee of experts in time to allow of proper provision being made at the new college at Guindy." His Excellency the Governor in Council accordingly resolves to appoint a committee consisting of the

following gentlemen for the purposes indicated in the above resolution:—(1) The Principal of the College of Engineering—Chairman, (2) The Chief Engineer, Public Works Department, (3) The Hon'ble Sir Francis Spring, K.C.I.E., (4) Mr. A. B. Strange, Engineer, Madras and Southern Mahratta Railway, and (5) Mr. K. T. B. Tressler, Superintendent of Industrial Education. The Committee is requested to forward to Government, through the Director of Public Instruction, recommendations regarding the accommodation and the courses of study which, having regard to the needs of the Presidency and the public service, should in its opinion be provided at the new college.

The Conjeevaram Hindu Girls' School.—The anniversary meeting and distribution of prizes to the pupils of the Conjeevaram Hindu Girls' School came off recently with the Hon'ble Mr. P. S. Sivaswami Iyer as President. The function was attended by a very large gathering of ladies and gentlemen and there were several distinguished visitors from Madras. The proceedings began with a prayer in Sanskrit by some girls. A highly interesting programme of recitations and enactment of scenes from the Ramayana was then gone through and the performances were so entertaining and of such a high level of excellence that the audience did not feel the heat and the weariness caused by being packed up in a comparatively small pandal where the sitting accommodation was so small that a great many people were obliged to stand the whole afternoon.

Mr. Ramanatha Sarma, Superintendent of the School, next read a lengthy report on the work of the school during the past year. Mrs. Annie Besant made a most stirring and eloquent speech in her usual style to which they gave wrapt attention.

The Chairman gave away the prizes to the successful pupils and the prizes consisted of several silver cups, books, one or two medals and toys, etc. Two handsome subscriptions were announced towards the fund for building a girls' school. Mrs. Besant said that she had a promise of Rs. 1,000, and another was of Rs. 500 from Mr. Colla Venkata Raghaviah Chetty.

The Chairman in concluding the rather lengthy but none the less interesting programme made a speech expressing on behalf of the audience and of himself their congratulations to the staff of the school and to the members of the Executive Council and to the Superintendent on the efforts they had been making in the cause of education and the evident success which had crowned their efforts. Mr. A. Ramasami Sastriar proposed a vote of thanks to the Chairman, to Mrs. Besant and to the various gentlemen who had contributed to the success of the meeting.

Banganapalle Schools.—The distribution of prizes in the State schools came off recently in the Secondary School Hall under the presidency of

His Highness the Nawab. The school was tastefully decorated for the occasion with flags and evergreens, and the hall was full with the elite of the place. At the appointed time H. H. the Nawab with the Princes drove to the school, where a guard-of-honour had been drawn up, and was received at the entrance by the school staff and conducted to the seats arranged on the dais. The proceedings began with the reading of the Annual Report for the year 1912-13 by the Supervisor of Schools. Then followed dialogues and recitations by the pupils. The prizes were then distributed to the pupils, books to boys and pretty-looking dolls to girls.

His Highness the Nawab then rose amidst much cheering and delivered a speech in polished Urdu, the substance of which is as follows:—

The report of the Supervisor of Schools shows that education is gradually progressing in the State. People have been taking interest in educating their boys; but the strength of the Mohammedan pupils shows a decrease. Two Urdu schools have been opened this year, and it is under consideration to open more schools in the villages where the Mohammedan population is strong. It is a matter for pity that teachers have to be drawn from outside, there being no competent men in the State. People should realize that unless they give higher education to their boys, their claims for service in the State cannot be favourably considered. Much had been spent on education this year. Hindu and Mohammedan parents should see that their boys get proper education. The State will advance only when there is a good number of educated people in it. Compared with conditions ten years ago, education had advanced very greatly. I am much pleased with the work of Mr. J. Raghottama Rau, Supervisor of Schools, and I hope he will continue to work with the same vigour and zeal he has shown up till now. The education given in the State Secondary School and its general management have been satisfactory. The Headmaster and the Assistants deserve much credit for the same.

His Highness the Nawab and the Princes were then garlanded, and a vote of thanks was proposed to His Highness the Nawab by the Headmaster of the State Secondary School. The proceedings then terminated amidst loud cheers.

The Madura College.—The anniversary and prize-distribution of the Madura College was held in the College-hall on the 7th instant at 5-20 P.M. with the Hon'ble Dewan Bahadur L. D. Swamikannu Pillai, Registrar of Co-operative Societies in the chair. There was a very large gathering of gentlemen besides a good contingent of students present.

The proceedings of the evening commenced with a prayer in Sanskrit followed by a dialogue—"An unwelcome intrusion". The character of Napoleon was next recited. 'A Boy's Meeting' was staged, which elicited frequent roars of laughter. Mr.

Raja Ram Iyer, the Principal of the College, presented the report for the official year 1912-13.

The reading of the report over, two of the girls present entertained the audience with the singing of choice songs to the accompaniment of music. Mr. K. Chinnaswamy Iyer, Lecturer in English of the College, read out the names of the prize-winners and the Chairman gave away the prizes. It is worthy of note that the prize-winners included nine girls, three Mahommadans and one Indian Christian.

In concluding the proceedings of the evening Mr. Swamikannu Pillai made a highly instructive speech which was listened to with great attention.

The speech over, the Chairman was garlanded and Mr. C. Srinivasa Iyer proposed in a short speech a hearty vote of thanks to the Chairman and with the singing of the National Anthem the function terminated.

Muthialpet H. S. Literary Association.—The sixth anniversary meeting of the Muthialpet High School Literary Association was held recently in the School Hall. The Hon'ble Justice Sir C. Sankaran Nair occupied the chair. There was a large gathering, including the Hon'ble Mr. Justice T. Sadasiva Iyer, present on the occasion. The proceedings commenced with a prayer, after which English, Telugu and Tamil recitations were gone through, and these were appreciated very much by the audience. The Secretary of the Association then read the annual report, after which the Chairman called upon Mr. P. Seshadri to deliver his address on "The Beginning of English Education in India." Mr. Seshadri then delivered the lecture, which was listened to with rapt attention by the audience, and in the course of which he discussed at great length the educational policy of the Government from the beginning of the 18th century, and also the utterances of some of the eminent statesmen who had done great good to India. The Chairman, in concluding the proceedings, said that, from the list of lectures delivered during the year under report, he was of opinion that they, the members, must have been benefited to a great extent, as they dealt with several important subjects. He was further glad to see that gentlemen like the Hon'ble Mr. Justice Sadasiva Iyer, the Hon'ble Mr. Justice Seshagiri Iyer and several others had taken part and helped them with their good advice and the Association must have done a world of good to the members. Referring to the lecture delivered, the Chairman said that the boys would derive, he hoped, full benefit from the English education imparted to them, but he would at the same time ask them not to neglect their own sacred literature. If they received their education in English and in the vernacular they were likely to become more perfect men than if they confined their education to one of the two. Apart from that, he was of opinion that English education was an absolute necessity for them, and he agreed with the lecturer in what

he had said. With the usual vote of thanks to the Chairman and the lecturer the meeting terminated.

A Prize-distribution.—The distribution of prizes to the students of the local St. Joseph's European Boys' High School came off recently under the presidency of the Rev. Fr. Glizzi, S. J., Principal of the St. Aloysius College, Mangalore. The school hall had been tastefully decorated for the occasion and in response to the invitations issued by the Rev. Fr. P. J. Repetto, S. J., the Principal, almost all the local European and Eurasian ladies and gentlemen had attended the function. The proceedings commenced with a chorus song: "Happy is our soldier bard" by the boys, after which Rev. Fr. Repetto, S. J., the Principal, read the annual report of the institution for the year 1913-14.

The President then distributed the prizes to the successful and deserving students.

International Phonetic Association—Particulars of the Examinations for the Diploma for proficiency in Elementary Phonetics (for Indian Students).—The Examination consists of the following parts:—(1) English Phonetic Dictation, (2) Phonetic Dictation in the candidate's mother tongue, (3) Phonetic Dictation in an unknown language or nonsense dictation (to test the candidate's capacity for recognising sounds), (4) Transcription of a passage of English written in phonetic transcription, (5) Reading aloud a passage of English in ordinary spelling, (6) Reading aloud or reciting a passage of English previously prepared, (7) Questions on Phonetic Theory. Marks are also given for the candidate's pronunciation in ordinary speaking.

In the dictation and transcription any script is accepted which satisfies the condition 'one sound, one symbol.' Candidates are, however, recommended to employ the alphabet of the International Phonetic Association. In the phonetic text for reading the alphabet of the International Phonetic Association will be used.

The phonetic theory required includes the analysis and classification of speech sounds generally and of the sounds of English in particular, stress, intonation, quantity, assimilation; questions may be asked on methods of teaching the sounds of English, and on the differences between English sounds and those of the candidate's mother-tongue. The questions are, however, not necessarily confined to these branches of the subject.

The total number marks given is 100 (20 for the theoretical questions, and 10 each for the other parts of the examination). The names of candidates obtaining 80 marks or more are published in the journal of the Association. No diploma is awarded to candidates obtaining less than 60 marks. Candidates failing to obtain the diploma may present themselves again for examination after an interval of not less than 6 months.

The fee for the examination is Rs. 5, and is payable to the examiner before or at the time of the examination.

Intending candidates should apply to the examiner not less than one month before the date at which they desire to present themselves. The times of examinations can generally be arranged to suit the convenience of candidates.

The present examiner is J. A. Yates, Esq., M.A., Kumbakonam, South India, from whom further particulars may be obtained.

Persons desiring information regarding the constitution and aims of the International Phonetic Association should apply to D. Jones Esq., University College, London, W. C.

Messrs Longmans Green & Co's. Branch, Madras.

The well-known publishers Messrs. Longmans Green & Co., will from the 1st of May, open a branch of their business at 167, Mount Road, Madras, for the supply of their publications (both English and Vernacular) and those of Messrs. George Philip & Son and Mr. Edward Arnold, Orders for books, etc., should be sent to them at that address. Messrs. Thompson & Co., Broadway, Madras, will cease to act for them in the supply of their Vernacular publications from that date.

BOMBAY.

Hill-School in Bombay Presidency.—A welcome feature of recent developments in the educational system of India has been the establishment in increasing numbers of boarding schools on the hill-stations in different parts of the country. The example of European educationists in this respect is being closely followed by Indians, and there is now hardly a hill-station in this Presidency which does not boast of an Indian boarding school. The value of education imparted in institutions of this kind situated in ideal climatic conditions cannot be over-estimated. Such schools provide the best training-grounds for the pupils and for the formation of an *esprit de corps* which would only be properly developed in boarding schools.

Ferguson College.—The 19th anniversary of the Ferguson College was recently celebrated by the Professors, students and their friends with a social gathering. The Hon'ble Mr. Claude Hill, I.C.S., Member of Council, presided. Addressing the young men before him Mr. Hill said there was one principle which they all equally could and should assimilate and that was the will to do well. Most of them when turned out finished would have to go through what Emerson describes as: "The souls mumps and measles and whooping coughs." If then they would study causes and not strive after immediate effects they would discover that the progress and betterment of human conditions could only be effected by the suppression of self and selfish ambition.

Co-operation involved unselfishness. The results might seem incommensurate with effort, but they would endure.

The pupils and guests then adjourned to the playground where an exhibition of Gymnastics was given, the programme concluding with refreshments.

Victoria Memorial School for the Blind.—The Governor of Bombay recently performed the opening ceremony of the building for the Victoria Memorial School for the Blind, when a further grant of Rs. 25,000 to the institution by the Government of Bombay was announced. The Governor in his speech greatly appreciated the public spirit of the citizens and in return he was paid a warm tribute for the very great work done during the one year that he had been in the Presidency.

CALCUTTA.

Calcutta College of Science.—The foundation-stone of a College of Science in connection with Calcutta was laid recently. Sir Ashutosh Mukerjee, Vice-Chancellor of the University in performing the ceremony said that the scheme was first rendered practicable by the execution of a trust-deed by Sir Taraknath Palit by which he transferred the money and land, valued at more than seven lakhs for the promotion of Pure and Applied Science among his countrymen. A few weeks later Sir Taraknath executed a second deed of a similar amount for the purpose of aiding the trusts mentioned in the first deed. The University Syndicate had received the Government's permission to apply Rs. 12,000 annually for the maintenance of the laboratory and Dr. Rash Bahari Ghose had offered ten lakhs for the foundation of four professorships and eight research studentships.

Santipur Municipal School.—Sunday, the 29th ultimo, was a 'gala' day at Santipur. The whole town was astir on account of the visit of the Director of Public Instruction to Santipur on the occasion of the Prize-distribution ceremony in connexion with the Santipur Municipal School. The Director came accompanied by the Maharaja Bahadur of Nadia, the District Magistrate and District Judge. Before the commencement of the ceremony, Babu Bhusan Chandra Das, M. A., presented to the Director an address of welcome on behalf of the Santipur public. Babu Sudhamoy Pramanick, B. L., Secretary to the School, read the annual report. Recitations in Sanskrit, English and Bengali by the boys followed. The President then gave away the prizes after which Babu Bisweswar Das, B. A., and two other gentlemen addressed the meeting. The ceremony over, the Director visited some other local schools.

ALLAHABAD.

Kali Charan High School.—The interesting and pleasant ceremony of the formal opening of the Kali Charan High School, Lucknow, was performed on the 16th instant by his Honour Sir James Meston. The leading citizens of Lucknow, both European and Indians, were present on the occasion. The building and the grounds were tastefully decorated and the whole place presented a gala appearance. His Honour and Lady Meston arrived at the appointed time and were received by the members of the Kali Charan Trust Committee.

The proceedings began by a recitation in Sanskrit by a Matriculation class student. This was followed by another recitation in Sanskrit by the lower class boys. After this, a student of class X read some verses in Urdu composed by the student himself. This was followed by a recitation in Hindi by the school boys.

The address to his Honour was then read by the Hon. Rai Bahadur Babu Ganga Prasad Varma. The address gave a short biographical sketch of Lala Kali Charan, the founder of the school, who by his registered will left a lakh and a quarter for the purposes of the school and other sums for various charitable objects.

His Honour then rose amidst loud applause and said that during the last tour of his in these provinces, he was struck with the marvellous progress which secondary education had made during the last few years. He observed that in that tour he had been asked to open not less than a score of schools of an equal standard with the present school. He eulogized the services of the members of the committee, especially those of Rai Ganga Prasad Varma Bahadur. He also congratulated the committee on having secured the services of a headmaster who was a scholar of repute. He also noted with satisfaction how cheaply and in what a short time Mr. Hewlett had erected the building. In conclusion, His Honour referred to Dr. Sapru's presidential address at the last Provincial Conference and said that he fully agreed with him that the time had come when the quality of secondary as well as college education should be improved and he felt sure that an able and energetic committee like that of the present school, would constantly keep that object in view. His Honour then formally declared the school open.

Pandit Gokaran Nath Misra then thanked his Honour for the encouragement given to the committee by his presiding at the function of that evening and prayed that the school might continue to receive support from his Honour's Government as it had till then received. His Honour and Lady Meston then inspected the class-rooms as well as the science laboratory. His Honour gave an assurance to the committee that their application for funds to build a hostel for the school, would receive sympathetic consideration at his hands.

London Mission High School, Benares.—The annual prize-distribution of the London Mission School took place recently. Mr. H. M. R. Hopkins, I.C.S., Commissioner of the Benares Division, took the chair, and quite a large gathering of friends, both European and Indian, came to witness the proceedings. The programme of the day commenced with a prayer by the Rev. Mr. Longman, followed by a Hindi, an Urdu and an English recitation. The Urdu recitation, composed by Mr. John R. Paul, one of the assistant masters of the school, was beautifully rendered and was highly commended. The recitation in English was a short but sweet one. It was a dialogue between the King and the Miller, and the two boys taking these parts did full justice to the piece. Then came the school report from the headmaster. The school prepares for both the Matriculation and the School Leaving Examinations; and judging by the various reports from the Inspector, it seems to be doing admirably in all its branches. The percentage of passes in the public examinations was very fair, and the school is to be congratulated on its carrying away two high school scholarships last year. Among the year's successes was mentioned the awarding of the Kaiser-i-Hind Medal to Rev. Mr. Cutting, Principal of the School, now on furlough. Only last year, Mr. A. C. Mukerjee, headmaster of the school for many years, was made a Rai Sahib, and this year Mr. Cutting receives the Kaiser-i-Hind Medal; so it is not unnatural for the school to think that the Government has made up its mind to include such honours for the L. M. S. School in the department recurring grant.

After the distribution of prizes by Mrs. Hopkins to the most successful candidates, the proceedings were brought to a close with a few remarks by the Chairman. A vote of thanks was next proposed to the chair, and a loud tribute was paid by the Principal to the quiet and steady manner in which the headmaster carries on the work from year to year, with the help of his willing staff.

PUNJAB.

ST. STEPHEN'S COLLEGE, DELHI.

Annual Prize-distribution.—The annual prize-day of the St. Stephen's College came off recently. Sir Harcourt Butler presided. There was a large and representative gathering. Principal Rudra gave a highly gratifying account of the College during the past year. Sir Harcourt then addressed the gathering. The prize-giving ceremony closed with the successful rendering of a portion of "Midsummer Night's Dream." Rai Sultan Singh proposed and Canon Almett seconded, a vote of thanks to the President which was acclamatory.

E. C. High School, Khurja.—On the 16th April, 1914, a farewell address was given to N. K. Ray, Esq., B.A., F.R.S.L. (Lond.), the worthy Head Master of the School, on the eve of his departure by the staff and the students, as a token of their sincere love and regard. The function was

presided over by Pt. Nitya Nand Panday, B.A., L.L.B., Munsif, Khurja, and was attended by a large gathering which consisted of the members of the bar, and the local gentry. He ably served the institution for a period of about 3 years, with great zeal, devotion, and self-sacrifice. He came to the school from the Maharaja's College, Jaipur, where he had been for the last 15 years Senior Professor of English Lit. and History, and showed very brilliant results so much so that in 1903, the only B.A. student, who obtained first class in the whole University was his pupil. He is the author of notes and commentaries on Church's 'Trial and Death of Socrates' and Wilson's 'Essays' and other books. He was presented with three different addresses and some valuable presents which among other things consisted of a silver tea set on behalf of the Teachers Association. His services to the school were very much eulogised by the speakers, particularly by Mr. Anwarul Huddah, B.A., L.L.B., his former pupil at the Maharaja's College, Jaipur and now a legal practitioner at Aligarh.

Foreign Notes.

GREAT BRITAIN.

School of Oriental Studies, London.—Some discussion took place at the London Education Committee on the consideration of the draft of the Charter establishing the School of Oriental Studies. This school, which will be housed in the London institution, is to provide instruction in the languages of India and Africa, ancient and modern, and in the literature, history, religious, and customs of the peoples, especially with a view to the needs of persons about to proceed to the East or to Africa for the pursuit of study and research, commerce, or a professional career. The school will be a school of the University of London, and the King is to be visitor through the President of the Board of Education. The governing body is to consist of the Vice-Chancellor and the Principal of the University; the Director of the School; five appointed by the Crown; three appointed respectively by the Secretaries of State for Foreign Affairs, War, and India; two by the Senate of the University; one by the City Corporation; two by the County Council; one by the Royal Asiatic Society; one by the London Chamber of Commerce; and two by the Academic Board. The Sub-Committee recommended that provision should be made in the Charter for the representation of firms having commercial interests in the East.

Dr. Financé suggested that the Secretary of State for the Colonies ought to be given power to nominate a representative instead of the Secretary for War. Mr. Cotton hoped the school would not be limited to those who were going to settle in the East for a long time, but that it would be open to engineers, railway constructors and so forth who might be called on to go out for a limited period. He would include working men, such as, say, printers who went out to take charge of a printing

press. Regarding the inclusion of a nominee of the Secretary of State for War, he hoped the school was not going to become a place for the young subaltern to get a smattering. The young subaltern had to learn the vernacular, and was examined in it abroad. Provision was made for him already. Mr. Cyril Jackson said that Mr. Cotton seemed to be anxious that the young subaltern should have no education. It would be very much better for the Army if the young subalterns did know something of the people among whom they were going before they went. The reason the Colonial Secretary was not included was that he took a different view from his colleagues as to the value of knowing the language before going out. The view of the Colonial Office was that it was better to learn the language after arrival. He was strongly in favour of the inclusion of commercial firms. He had heard the education committee criticised because of the absence of business men. The members of the committee were said to be educational faddists and so forth. The Rev. Dr. Scott Lidgett supported the sub-committee, and the proposal was adopted.

School attendance in England.—A legislative measure of considerable importance which is now receiving widespread and singularly just attention in England is the Hon. R. D. Denman's Bill to amend the law in respect of the employment of children and their attendance at school. Mr. Denman is a Liberal in his politics but on the merits of his Bill opinion is pretty evenly divided among the legislators, the supporters and opponents being found on both sides of the House. The principle points in the Bill are as follows: (1) The optional powers granted to local education authorities to extend the age of leaving school should be extended from 14 to 15 years. (2) There should be no exemption from school attendance for children under 13 years of age. (3) The existing half-time system should be abolished. (4) Power should be given to local education authorities to require attendance at continuation classes. (5) Street trading by boys under 15 and girls under 18 years of age should be prohibited. The introduction of the Bill was seconded by Mr. S. J. C. Hoare, a Unionist member, but its rejection was moved by Sir F. Baring, a Conservative. Sir F. Baring's motion for rejection was supported by Liberals like Mr. Morrell as enthusiastically as the original motion was supported by Conservatives like Sir William Anson, member for Oxford University. It is noteworthy that Sir F. Baring based his objections on the restraint it placed on personal freedom and action and on the discouragement of thrift and self-reliance which the Bill implied. He also discounted the value of 'mere book learning' and said that his long experience as a city man had taught him that the most successful people in commercial life were those who had been compelled by circumstances to begin the fight for existence at an early age. He, however, stopped short of instancing the case of street hawkers who had risen to be important 'city men.'—*The Tribune*

The Educational Review.

It is a matter for rejoicing that the last meeting of the Madras Legislative Council devoted much more of its time than usual to the discussion of current educational problems. The Honourable Mr. K. Rama Iyengar led off with a demand that the lump grants budgeted for education and other purposes be distributed according to some definite principles to be decided by the Finance Committee. The Honourable Member had previously elicited from the Government the statement that there was no definite programme of improvements in respect of education, etc., either in rural or Municipal areas. He rightly protested against haphazard expenditure when large sums were involved yearly. He pointed out that on account of the want of any principle guiding distribution of grants, "several areas in Bellary, Godaveri, Kurnool, Madura, Malabar, Nellore, Trichinopoly and Vizagapatam districts did not get grants proportionately." The Honourable Mr. P. S. Sivaswami Iyer, on behalf of Government, opposed the proposal. He argued that the life of the Finance Committee was ephemeral and that the expenditure would have to be decided on in the long interval between the short lives of the Finance Committees of two successive years, that the Finance Committee was not according to law and precedent entitled to consider the question, and that, therefore, haphazard ought to

"necessarily override any general principle which might be laid down." We confess we are not convinced by the Honourable Mr. Sivaswami Iyer's arguments. If the Finance Committee cannot legally consider the question, the law may be amended or some other committee can. At least there can be no difficulty in the way of Government accepting advice as to how the grants can best be distributed. We cannot admit that in the distribution of large grants, general principles ought to be overridden by chance. Even in private finance, haphazard as a guiding factor is rightly condemned. Much more so should it be in the administration of the finance of a large presidency. The Government's arguments strike us as special pleading fit for Law Courts rather than a Legislative body. It is no wonder, therefore, that the Honourable Dr. T. M. Nair was tempted to pass some severe strictures on the line taken by Government. The debate that followed did not save the situation, though H. E. the Governor attempted to do so by declaring that the distribution of grants was not made haphazard but according to the needs of the locality. This we regard as savouring of begging the question for the point of Mr. Rama Iyengar's resolution dealt with how to ascertain the needs of localities. His Excellency himself, soon went on a side track and made an elaborate speech on the functions of the Finance Committee and the Legislative Council—all which had nothing to do with the question on hand, which was whether the needs of localities were to be decided

haphazard or whether a machinery in which non-officials were represented had to be created to decide on the general lines on which the question can be decided. It is hoped that some Member of the Legislative Council will bring up the main question again at some future meeting and in such a clear-cut manner that the debate cannot slip on to side-issues.

The Honourable Mr. V. S. Srinivasa Sastri then moved three resolutions dealing with educational matters.

The first was a call to delete the part of educational rule No. 99 which requires pupils passing from Elementary Schools to Secondary Schools to pay a heavy penalty. The real point of the resolution—not brought out fully in the debate that followed—was that the education at present given in Elementary Schools in our Presidency and in the first four classes of Secondary Schools are *absolutely the same* and they will not become different one from another merely by levying a fine from those who pass from one school to the other. The Honourable Mr. V. S. Srinivasa Sastri may very well have emphasized this. For our part we think that elementary education ought to be organized as an end in itself (and not as a stepping-stone to Secondary education), as is done in most countries. This is all the more necessary in India, where such a large percentage of the population lives in villages. But at present absolutely no difference exists between the work of

any standard of an Elementary School and the corresponding standard of a Secondary School. In both, the same subjects—reading, writing and arithmetic are taught by the same primitive methods and hence it is cruel to levy a fine "for the purpose of maintaining the [actually non-existent] distinction between Elementary and Secondary education." The Honourable Mr. Pittendrigh said that the hardship worked by the rule was "more in appearance than in reality." If the Honourable member would only step out of Madras and go into any town outside Madras and ask any Headmaster his experiences of the working of the rule, he would find that the hardship is more in reality than in appearance. But the question is not whether parents suffer much but whether it is wise to pretend that there is a distinction where there is no difference and keep it up by means of a fine. We hope that when the question comes up again before the Legislative Council, the aspect we have pointed out will be given prominence.

Two other resolutions of the Honourable Mr. V. S. Srinivasa Sastri were concerned really with the appointment of more and more Indians as Inspectors and Professors, a step which we have advocated frequently in our columns, but the Honourable gentlemen, as in the previous resolution, beat so much about the bush that the real object was lost sight of in ambassadorial fencing. We wish the Honourable gentleman had gone straight

The Madras Legislative Council and Educational questions.

Elementary and Secondary Education.

More Indian Educational officers.

to the point and moved that in the opinion of the Legislative Council it was desirable for the advancement of the country that at least half the officers of the Indian Educational Service should be Indians and that the Government ought to devise measures to seek out capable Indians and make provision for their training in Europe or America such as will make them at least as competent for service as European officers. For want of such a straightforward demand the debate strayed into side issues and degenerated into hedging.

The Honourable Mr. Srinivasa Sastri's last resolution was a little more direct than the rest but even this was too full of limitations in that it recommended that "selected officers of the Provincial or Subordinate Educational Service be sent abroad on deputation from time to time to study the educational systems of England and other countries." This resolution looks more like an attempt to secure promotion for subordinate officers than a thorough-going attempt to improve education in the Presidency. The mere study of "educational systems" will not do any good, for after all the introduction of improved educational systems is a matter that lies in the hands of the head of the department. What the country needs is that capable Indians—of whom there are very many—should be trained in Europe so that they might become as efficient as the first class Professors of Europe and America and in their turn inoculate our pupils with the spirit of Western education. Nothing less

than this will make English education really efficient in this country and inspire our young men with ability to appreciate and enthusiasm to spread real western culture among the people.

The Honourable Mr. A. S. Krishna Row moved a resolution on this subject and in doing so delivered a

Expansion of
Elementary edu-
cation.

speech which was a model of what such speeches ought to be, full of accurate information derived from the available governmental literature on the subject. He advocated that a committee of officials and non-officials be appointed to draw up a definite programme of schools to be started, school-houses, to be built, etc. It is exactly in drawing up such a programme that non-officials help inspired by first-hand knowledge of local wants will be most valuable to Government. So we are surprised that even the Honourable Mr. Stone misunderstood what the proposal was and accused the Honourable Mr. Krishna Row of "anxiously asking for the appointment of a committee to formulate the educational policy with regard to elementary education," and proceeded to vigorously belabour this wind-mill giant. It is a pity that the Honourable Mr. Krishna Row, in his reply, contented himself with feebly protesting "that he was rather afraid that the scope of his resolution was not correctly understood," whereas as a matter of fact it was completely misunderstood. Indeed toward the end of his reply, the Honourable gentleman gave his whole case away by

saying that he wanted a committee for guiding and advising "local bodies whenever necessary." How we wish that it were possible for an Indian educationist to get into the Council and handle these and other questions with first-hand knowledge and personal experience.

Educational questions came up again in the Budget debate before the close of the session. The Honourable Mr. B. N. Sarma complimented the Government on the "considerable attention" paid by Government to educational matters, because two colleges and an Industrial school was promised to the Telugu districts. The Honourable Mr. V. S. Srinivasa Sastri returned to the question of the relations between Elementary and Secondary education but spoilt his case by solemnly declaring that in England the idea that elementary education was for the masses and secondary education for those few who could take to the "professions" was being killed out by the "democratic spirit." This is not and cannot be true, for no country can yet afford to be without the masses or to turn all men into professionals. What has recently taken place in England is that opportunity has been amply provided for poor but clever boys to gain seats in Secondary schools which is, of course, quite different from breaking the barrier between or confounding the separate objects of elementary and of secondary education. All the same, his speech led to the promise of the

investigation of a real evil. The Honourable the Rev. G. Pittendrigh spoke on the occasion as the exponent of Government educational policy. It is rather surprising that at almost his first appearance in the Legislative Council the Reverend member should regard himself as specially in the confidence of the Government and declare that it was the Government's policy to encourage elementary education and not to start colleges where there were none. The Reverend gentleman's criticism of the demand for Muhammadan Inspectors that it might lead Christians to ask for Christian Inspectors was peculiarly unhappy, because the Muhammadans speak Urdu at home and learn it at school and no Hindu Inspecting officers who know Urdu are available; but the Christians, at least of the ministry of the Reverend G. Pittendrigh, do not speak or learn languages other than what the Hindus speak and learn. The Honourable Mr. V. S. Srinivasa Sastri and the Honourable Mr. Pittendrigh elicited a statement from the Director of Public Instruction that the model school scheme was dead. We are sorry that the scheme has been abandoned. The public objected not to the scheme itself, for model schools can do but good to education but to the peculiar manner the schools were proposed to be staffed, so as to make them "a costly luxury," as the Honourable Mr. V. S. Srinivasa Sastri termed it and not real guides to other schools, places where the latest educational methods of Europe and America could be worked,

so that other schools might learn and imitate. We regret that such model schools, not even one such, could be started by Government, though so many Government officers are so ready as to cavil at the work of our schools as not being inspired by the "spirit" of western education.

The educational interpellations were interesting in their way.

The interpellations. The first was about the importation of Uriya

teachers from Cuttack, the reply to which by the D. P. I. called forth a letter of angry protest in the columns of the daily press. The Uriyas of Ganjam and Vizagapatam have recently been infected with the same separatist fever as the Telugus of Krishna and Guntur who demand the immediate constitution of an Andhra province. Ganjam being a border district cannot help being bi-lingual and hence the Government's reply is justified, that "Telugus who know Uriya are found to be better teachers for the purpose in view than Uriyas of Orissa who are ignorant of Telugu." The Honourable Mr. Richmond and the Honourable Mr. V. Kunhiraman Nayanar put a number of questions but as they mostly deal with minutiae, they are not of much general interest.

Calcutta is no more the capital of India for purposes of government but it continues to occupy the prouder position of the intellectual capital of India. For recently the foundation

stone was laid of the College of Science—endowed by Indians, and to be worked by Indians and for Indians. The story of the endowment of the college first by Sir Taraknath Palit and then by Dr. Rashbehary Ghose, of the ineffectual attempts of the Calcutta University Syndicate to get the endowments supplemented by the Government of India and of the consequent necessity to be content with less ambitious plans than were first drawn up was told vividly by Sir Asutosh Mukerji in his speech on the occasion. The first thing striking about the organization of the college is that it is a Bengal but not a Bengalee institution, for "of the six professors, fully one half come from other provinces than Bengal." There have been opened in the college two chairs of Physics, two of Chemistry, one of Applied Mathematics and one of Botany. The first Professors are Mr. C. Venkataraman, Mr. Debendra Mohan Bose, Dr. Prafulla Chander Roy, Dr. Prafulla Chunder Mitra, Dr. Ganesh Prasad and Mr. Shankar Purushottam Agharkar. To each of these have been assigned two distinguished graduates as research students. We have nothing but praise for the choice of subjects and the choice of men, for the subjects are such that their pursuit will re-act on the industrial advancement and material prosperity of India and the men are fervent patriots who are ever ready to sacrifice their own advancement for that of their motherland. And it is not Calcutta, but all India that will benefit by the College, for as Sir Asutosh said,

"no stronger testimony is needed to emphasise the cosmopolitan character of science [than the choice of Professors from all provinces of India] and I fervently hope that although the College of Science is an integral part of the University of Calcutta, it will be regarded not as a provincial but as an All-India College of Science, to which students will flock from every corner of the Indian Empire, attracted by the excellence of instruction imparted and of the facilities provided for research."

(The full speech of Sir Asutosh is published in full elsewhere in this number.)

It is sad to turn from contemplating this splendid monument of Indian philanthropy and this noble attempt to develop Indian talent to a consideration of how the attempt to introduce the teaching of the Economic History of India and the Constitutional History in the Madras Honours Courses miscarried. In an inexplicable way the question became a racial one, for all the Indian Fellows but one voted for it and all the European Fellows voted against it. It is a great pity that racial feelings should influence debate or voting in such a body as the Senate, which ought to be above all emotion and to single-mindedly devote itself to a development of culture on all sides, undeterred by sentiment or other extra-academic consideration. But some fatality seems to have always dogged the teaching of the History of India. One would think that first the History of South India and then the History of

India would be indispensable parts of the syllabus of instruction in South Indian schools and colleges, but this has never been so in the Madras Presidency. True the History of India was always a Matriculation subject but under that name was taught merely the lives of a few eccentric Muhammadan rulers of Delhi and an account of the wars of the East India Company. South India and ancient India before the Muhammadans invaded North India were ignored. One reason for this strange state of affairs is this, that the Madras Education Department has till now successfully omitted to secure the services of men like Buhler, Keilhorn, Stein, or Thibaut who have infected the educational world north of the Nerbudda with a love of ancient Indian History; nor has Madras attracted (except in one instance) civilians like Fleet, Kennedy, or Vincent Smith who have not merely administered districts but conducted eminent research in the field of the history of the period when Hindu supremacy existed. Hence ancient Indian History, which is the real history of the Hindus and which alone can explain the life of the Hindus to-day has been avoided in South India. But once an attempt was made (and that a few years ago) to include it in Matriculation Indian History, but the Matriculation course of studies died immediately and was followed by the S. S. L. C. course which has practically, though not theoretically, ousted the teaching of Indian History from our schools. As for colleges, Indian History is kept out of the Intermediate

course and now the Constitutional and Economic History of India has not been allowed to be included in the B. A. course. It is ridiculous that our pupils have to read about Solon but not about Chanukya, about Pompey but not about Karikala Chola, about Free Trade in England but not about the great maritime trade of Caveripatam with the Roman Empire. We trust this question will not be dropped but be taken up year after year till the Senate comes to a better frame of mind and accepts the proposal rejected last March by the majority of one.

Unlike the Madras University, the University of Oxford has a school of geography. Its seventh biennial vacation course will be held from August 4th—21st next. There will be two lectures and a class or an excursion each day. "The lectures will be on the teaching of geography, climate, economic and social geography, local geography, natural regions of the British Empire and *India*. There will be classes on map-making and map-reading in field and laboratory for beginners, and on surveying for advanced students; classes for the study of local geography, land forces, climate, economic and social geography, the historical geography of the British Isles, and the *geography of India*." It is a significant commentary on the superior way in which the Madras University is managed that if one of our young men wants to learn the *geography of India*, his own University cannot give him any help but he has to go to Oxford.

The Madras University can help him to learn such subjects as the grammar of Gothic, the history of the Popes which are eminently calculated to aid the development of India but not the geography of his own province or country. This sad state of affairs is again due to the fact that the Madras Educational Department is successful in securing the services of men who are specialists in subjects which can have no interest or use for the Indian, but not those who have studied Indian subjects as a life-work or as a hobby or at least capable of working at them after they came to this country. Mr. Thurston, late of the Madras Museum, was a specialist in South Indian Anthropology but the Madras University had no use for him and he had to wait till he went to England before he could publish his geography of South India and we may add that the book will be studied in Oxford and Cambridge, in Berlin and Gottingen but not in South India as the Madras University has no school of geography, and if the establishment of one were proposed, it would share the fate of the proposed school of Indian History.

The Syndicate summoned a special meeting of the Senate on the 24th instant, mainly to sanction the appointment of six University Readers in Dravidian Philology instead of one Professor. Numerous members of the Senate criticized the scheme as imperfect in many ways. It is a pity that the Syndicate placed itself in this awkward pre-

A hasty Syndicate
and a critical
Senate.

dicament. The Senate is a body that can meet but rarely and the Syndicate has necessarily to act often in anticipation of the Senate and hence it will lead to a serious stultification of University business if the Senate feels itself bound to criticise severely any action of the Syndicate. Hence the Syndicate ought never to arrive at hurried decisions or place before the Senate schemes not carefully thought out. The Dravidian languages have lived so long without a Professor that we conceive a year more will not do them any harm. Some of the criticisms raised against the scheme of the Syndicate such as the favouritism shown to one language, were sound. Nor can we believe that the appointment of a few men admitted by the Syndicate to be incompetent to hold the Professorship for two years is likely to lead the way

for the gestation of a Professor among them or that the proposed Professor of Sanskrit, notwithstanding his reputed knowledge of North Indian languages will at all be able to train the Readers to become masters of Dravidian Philology. A school of South Indian Philology has to be found and this can be done only by a South Indian who is a master of modern philological methods and at the same time not only conversant with South Indian languages but also devoid of the prejudices which students of Sanskrit Philology generally labour under. We cannot believe that our University has been so barren of results that one gentleman at least cannot be found who has not worked or is not capable of working at Dravidian Philology to entitle him to be University Professor.

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WITH INTRODUCTION AND NOTES

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UNIVERSITY OF CALCUTTA.

* Address delivered by the Hon'ble the Vice-Chancellor Sir Asutosh Mookerjee at the annual Convocation on the 28th March 1914.

YOUR EXCELLENCY, LADIES AND GENTLEMEN:

Twelve eventful months have rapidly rolled away since I had last the privilege to address the Convocation from my place in this historic hall and to convey to the new graduates of the University a message of advice and encouragement. Under ordinary circumstances, I would have preferred to take up the position of a listener rather than that of a speaker on the present occasion. But events beyond my control render it impossible for me in this instance to depart from the custom, which

* Reprinted from the University edition.

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was inaugurated more than half a century ago by the first Vice-Chancellor of this University and has been loyally followed by all his successors, and it is incumbent on me again to take stock of the progress that has been attained in our academic life and to indicate the outlines of the work which still remains to be accomplished.

The history of our academic work during the year which has just elapsed, is a record of uninterrupted progress; it may appropriately be described even as progress remarkable in the annals of this University. But I regret that I cannot this day, as I was happy to do twelve months ago, congratulate myself that I am not called upon to deplore the death of our active workers. Indeed, during this brief period, our ranks have been thinned away by death, retirement or resignation to an extent which we do not readily recognise, till we come to examine closely the catalogue of our losses. By the death of Babu Gaurisankar De, we have lost a veteran Professor, who was rightly regarded as a tower of strength to the cause of education in these Provinces. After an academic career of exceptional brilliance, he attached himself to the cause of instruction of our youths and unremittingly toiled in the performance of his task for forty-six years to

the very day of his death. His extensive knowledge of mathematics, his powers of exposition, the accuracy and thoroughness with which he accomplished whatever he undertook, the innate modesty of his nature, secured for him the spontaneous admiration of all who ever came into contact with him. His services to the institution to which he adhered through life, with a fine sense of loyalty which would not even tolerate the thought of preferment elsewhere in his own line, and his services to the University as a Member of the Senate, of the Board of Studies in Mathematics and of the Board of Examiners, for more than a quarter of a century, will be held in grateful remembrance by all who are interested in the progress of education amongst our people. But if we lament the loss of a veteran like Babu Gaurisankar De who has passed away full of years, our grief is intensified in a manifold degree when we are reminded of the loss we have sustained by the premature death of Babu Binayendranath Sen, who has been cut off in the prime of life by a fell disease, while still in the full vigour of manhood, in the plenitude of beneficent activity and with prospect of many years of useful work before him. The solidity of his learning, the soundness of his judgment, the nobility of his character, the unselfishness of his devotion to his lifelong mission, made him the ideal teacher, the guide, friend and philosopher of his students who held him in the highest reverence and deepest affection. He commanded the genuine respect of all who came into contact with him in whatever sphere he worked, whether as an instructor of youth, as a Member of the Senate, as a Member of the Board of Studies, as a Member of the Board of Examiners, as an Inspector of Colleges or as the

Secretary of that useful institution, the Calcutta University Institute, of which he was for many years the chief guiding spirit. He has passed away, his life-work unfinished, but his memory will be lovingly cherished by future generations of students and educationists.

By the retirement of Mr. Kuchler, we have lost an educational officer of great ability and wide experience. A scholar of varied culture, philosophical and scientific, he rapidly built up a reputation for himself as a Professor of Mathematics and Physics in days gone by, when there was no lack of brilliant and erudite teachers. Later on, he distinguished himself by sobriety of judgment when placed at the head of the Department of Public Instruction in these Provinces. In the University, with which he was closely associated for more than a quarter of a century in various capacities, he commanded the respect of his colleagues as a sound and reliable adviser; nothing was more distasteful to him than what is so captivating to many an inexperienced enthusiast, the role of the erratic reformer, and it was a distinct advantage to the cause of progress that he took a prominent part in the deliberations of the Senate and of the Special Committee when the New Regulations were framed. By the retirement of Mr. Little, who was intimately associated with the University as Registrar during very strenuous times, the memory of which we have not forgotten, we have lost a successful and experienced Professor of Mathematics. By the retirement of Mr. Hallward, we have lost a fearless worker in the field of education whose undoubted abilities might have been more fruitful of results, if his zeal for reform had been tempered by sympathy for the

people whom he was called upon to serve. By the retirement of Mr. Prothero, we have lost an educational officer of long and varied experience, whose modesty probably stood in the way of a full recognition of his considerable abilities. By the retirement of Bishop Copleston, we have lost an erudite scholar and investigator, who, notwithstanding the pressure of his ecclesiastical duties, never grudged to help us with his co-operation and advice in linguistic matters specially within his province. By the retirement of Sir Richard Harington, we have lost a patient and conscientious Judge, who took an unfailing interest in the reform of legal studies in this University. By the retirement of Mr. Alexander Thomson, we have lost a veteran educationist who conscientiously devoted himself, for more than a quarter of a century, to the task of instruction of our youths in mathematics, in one of the foremost colleges of this city. Whatever duties he undertook, he discharged with unfailing accuracy, and he impressed on whatever he touched the indelible mark of the man distinguished by capacity to take infinite pains—and it was mainly for this reason that his services as a tabulator and as a Member of the Board of Accounts were truly invaluable. By the retirement of Dr. Denison Ross, we have lost one of our most devoted workers who had been intimately associated with us for the last ten years in various spheres of activity. He was keenly interested in the study of languages, and his services were eagerly sought and highly valued in the cause of promotion of Persian and Arabic learning. But no acknowledgment of his claims on our gratitude will be complete without a reference to the prominent part taken by him when the New Regulations were framed by the Special Com-

mittee of which he acted as Secretary, and discharged his difficult and laborious duties with tact, caution and judgment. By the retirement of Mr. Finnimore, we have lost the Dean of our Faculty of Engineering, and it will not be easy to fill his place by the appointment of an officer of equally mature judgment and varied experience. Finally, by resignation, we have lost, only temporarily, let us hope, the services of Professor Henry Stephen, of Father O'Neill, of Dr. Hayden and of Mr. Milburn. Last, but not least, we lament the loss of one, who, though no longer directly connected with us, had been in the past, one of the truest and most generous friends of this University, I mean, our late Chancellor, the Earl of Minto. This is neither the time, nor the place, where I could fittingly pronounce an eulogy upon the administration of the Earl of Minto during one of the most critical periods in the history of British Rule in this country, when he filled the exalted office of Viceroy and Governor-General of India. But I shall grievously fail in my duty, if I refrain from public acknowledgment of the debt we owe to him personally as Chancellor of this University. It is superfluous for me to remind you that he held the office of Chancellor at one of the most critical periods of our academic life, when the whole problem of the reconstruction of the University was under examination from every conceivable point of view, and the ultimate decision of more than one question of fundamental importance depended upon the judgment of the Chancellor himself. The view he took of these academic matters was characterised by soundness of judgment, genuine sympathy, and above all, transparent sincerity, which inspired confidence, silenced opposition, and secured loyal co-operation.

During the last twelve months, the University has been the fortunate recipient of a number of endowments which are of importance as affording unmistakable evidence of the continued interest taken in its prosperity by people of education and culture in different parts of the Province. It is remarkable that three of these have been created for the encouragement of study of Mathematical or Natural and Physical Science, one for the encouragement of Bengali Composition and one for proficiency in Law. It is a matter for special satisfaction to all Members of the University that one of the endowments will be associated with the names of our late distinguished colleagues, Nawab Abdul Latiff and Father Lafont, each of whom in his own department rendered services to the cause of higher education fully worthy of commemoration. But all these endowments, though eminently praiseworthy and cordially welcomed by the Senate, have been thrown into the shade by the princely benefaction of Dr. Rashbehary Ghose, which has enabled the promoters of the College of Science to take determined and rapid steps forward for the immediate realisation of this epoch-making undertaking. The full significance of the institution of a University College for the study of Science, Pure and Applied, and of Technology, does not require an elaborate commentary at my hands, and the six Professors, assiduously engaged in advanced study and investigation and in the promotion of research by our senior students, will exercise a most powerful and beneficent influence upon the entire system of higher studies in this University. It would be a mistake, however, to suppose that the endowments I have mentioned afford the sole indication of the progress we have made in the sphere of

advanced work by the University. Mr. Saratkumar Lahiri, one of the most enterprising publishers of this city, whose premature death is deeply mourned by a large circle of friends, recently proposed to the University, that the income of the fund created by him five years ago might be applied towards the foundation of a Research Fellowship for the investigation of the History of the Bengali Language and Literature. The proposal was cordially approved by the Syndicate and sanctioned by the Senate, with the result that we have been able to appoint Rai Saheb Dineschandra Sen for a term of five years as Research Fellow to carry on investigations in the History of the Bengali Language and Literature. The Fellowship thus established has been appropriately named after the illustrious father of the Founder, the late Babu Ramtanu Lahiri, one of the most distinguished educationists of a generation which has now passed away. We confidently expect that the first Ramtanu Lahiri Research Fellow will do ample justice to his office and will be able to carry on without distraction the valuable work which he commenced in his luminous lectures on the History of the Bengali Language and Literature, now worthily supplemented by two handsome volumes of Typical Selections, the fruit of years of laborious study and research. The Senate has also sanctioned a scheme, in the first instance provisionally for a term of five years, for the institution of a Travelling Fellowship. The duty imposed upon the Travelling Fellow will be to investigate educational methods abroad in his special department of study, preferably in Great Britain and in the Continental European seats of learning. This system of Travelling Fellowship, if it is judiciously worked and if

the selection of Fellows is made with care and discretion, is bound to prove an invaluable help in the cause of promotion of higher studies.

The next subject, upon which I desire to dwell briefly for a moment, is the actual realisation of our scheme for the appointment of University Professors, upon which we have been engaged for the last two years. It is since the date of the last Convocation that all our University Professors have entered upon the discharge of the duties of their new office. Dr. Thibaut, as Carmichael Professor of Ancient Indian History and Culture, has opened his course with a captivating series of lectures on the earliest stage of Aryan Civilization. Dr. Young, as Hardinge Professor of Mathematics, has, on the system so familiar in German Universities, started a colloquium where the most advanced students, some of whom are themselves engaged in the work of instruction in Colleges, have obtained from him an insight into that fascinating and all comprehensive department of modern mathematics, the Theory of Functions of a Real Variable. Dr. Strauss, Professor of Comparative Philology, has taken seriously in hand our Sanskrit students, who are however considerably handicapped in their study of this subject by their want of knowledge of the Classical and Modern languages of Europe. Professor Hamilton has most energetically commenced the organisation of our school of Economics and has, I know, produced a profound impression upon our post-graduate students. Finally, Dr. Brajendranath Seal has commenced a series of thoughtful and invigorating lectures on Philosophy, which embody the ripest fruits of his erudition and power of incisive analysis, and which will stand favourable comparison with similar lec-

tures delivered in any other seat of learning. During the last twelve months, the Senate has been able to create also two new Professorships of English language and literature, principally for the benefit of our M. A. students, and has been fortunate enough to secure the services of a veteran educationist like Professor Stephen and a brilliant young teacher of the stamp of Professor Robert Knox. During the last twelve months also, in addition to the University Professors I have named, we have been able to secure the services of distinguished Readers, each an acknowledged master in his own special department and an unfailing source of inspiration to all genuine students. The lectures on Kinship in Early Law, which were delivered by Professor Paul Vinogradoff to a distinguished and appreciative audience, were characterised not merely by profoundness but also by a remarkable power of analysis and lucidity of exposition. The learned lectures, which were delivered by Professor Hermann Jacobi on the Theory and History of Indian Poetics, were equally remarkable in their own special line, and revealed to our students the innermost significance of different schools of rhetoric which they had superficially studied without a genuine appreciation of their mutual relation. Amongst scholars who have been closely associated with us for years and with whose attainments we are well-acquainted, I need but mention Mr. Jogindranath Dasgupta, who has given to our students a vivid description of Bengal in the Sixteenth Century and Mr. George Findlay Shirras who is still expounding to them many a mystery in the fascinating field of Indian Currency and Finance. But we have not remained satisfied with the work already accomplished. We have made

elaborate arrangements for the year to come, and during the session which is about to commence, we expect to have series of lectures by Professor Sylvain Levi on the subject of Communication between India and her Neighbours in Ancient Times, by Mr. Bhandarkar, the inheritor of an honoured name, on the subject of Indian Epigraphy, by Mr. Yamakami, a well-known Japanese scholar, on the subject of India as depicted by Chinese Travellers, by Babu Dineschandra Sen on the Vaisnab Literature of Mediæval Bengal, and by Mr. Dasgupta on the subject of India as depicted by European Travellers in the Seventeenth Century. A series of lectures by the scholars we have named cannot possibly fail to create enthusiasm amongst our students; but to their great good fortune, we have been able, with the kind assistance of my distinguished predecessor in this chair, Sir Alexander Pedler, to secure the services of a number of eminent scientific men of the foremost rank, who will visit Australia as members of the British Association for the Advancement of Science and who have consented, on the way of their return home, to visit Calcutta and to deliver courses of lectures as University Readers, each in the special department of study which he has made peculiarly his own by lifelong study and investigation. In this way, we have arranged to bring our students, next cold weather, into contact with Professor Herbert Hall Turner, Savilian Professor of Astronomy in the University of Oxford, Professor Ernest William Brown of the University of Yale, Professor Henry Edward Armstrong, Professor of Chemistry in the Imperial College of Science and Technology, Professor William Mitchinson Hicks, Professor of Physics in the University of Sheffield, and Professor

William Bateson, Fullerian Professor of Physiology in the Royal Institution.

I cannot leave off this imperfect review of the facilities we have arranged for the higher instructions of our advanced students without a brief reference to the remarks of well-intentioned friends, who take a pessimistic view of the situation and regard all this as an expensive luxury for which, they maintain, our students are really not fitted. I cannot agree with this depreciatory opinion about the qualifications and capabilities of the best educated amongst our young men. I deny most emphatically that they are not thoroughly fitted to profit by the elaborate courses of lectures delivered by eminent investigators like Dr. Andrew Russell Forsyth, Dr. Hermann Oldenberg, Dr. Hermann Jacobi and Dr. Paul Vinogradoff. That the seed has fallen on fruitful soil is amply evidenced by the awards we have recently made, on the report of competent and exacting judges, for original research. Amongst these, I may mention the theses on a Problem in Endless Dimensions by Dr. Syamadas Mookerjee for the Griffith Memorial Prize, on the Anatomy of the Atopus by Dr. Ekendranath Ghose for the Griffith Memorial Prize, on a History and Critical Estimate of the work of Ancient Indian Writers on Medicine by Dr. Girindranath Mookerjee to whom the Griffith Memorial Prize had been on a previous occasion awarded for a highly original and valuable treatise on the Surgical Instruments of the Hindus, on the origin and development of the Bengali Alphabet by Babu Rakhal Das Banerjee for the Jubilee Prize, on the History of Occupancy Right in Bengal by Babu Radharaman Mookerjee for the Onauth Nauth Deb Prize and on Law and Jurisprudence in Ancient

India by Dr. Nareschandra Sengupta whom I had just now the pleasure to admit to the highly prized Degree of Doctor in Law. It is a significant fact that although the Premchand Roychand Research Studentship has been awarded this year to Bimanbihari De for a thesis on Chemistry, to Girindralal Mookerjee for a thesis on Curves and to Gauranganath Banerjee for a thesis on Hellenism in Ancient India, the Boards of Examiners were embarrassed by the excellence of the work of rival candidates and regretted that they had not more Research Scholarships at their disposal for the benefit of intrinsically deserving students. Investigations like those embodied in the theses I have just mentioned, indicate a high level of intellectual work and cannot be contemptuously ignored. I maintain with confidence that the arrangements we have made to bring the best amongst our students into touch with some of the master minds of Europe, as also the facilities we have afforded to them for research and investigation, have already begun to bear fruit and have been unquestionably justified.

I shall now pass on for a moment to another aspect of our activities, which has recently engaged the attention of our friends quite as much as of our detractors. Reference has been made, sometimes with a feeling of anxiety, sometimes with a feeling of alarm, to the increase in recent years in the number of candidates for various examinations and of those who have successfully sought admission into the University. The view has been expressed that this implies a depreciation of our standards. Here, again, our critics have reached their conclusion without sufficient data to form the basis of a rational and impartial judgment on the matter. They have forgotten or overlooked the well-known

fact that while the standards were raised by the New Regulations, a determined effort was made by the University to improve the agencies for instruction. I find it difficult to appreciate how any true friend of advancement of education in this country can overlook the circumstance that, since 1906, the Schools and Colleges throughout this Province have been re-organised and that in many cases the re-organisation has been of such a fundamental and far-reaching character as to indicate a veritable rebirth of the institutions concerned. The teaching staff has been improved and strengthened all round, both qualitatively and quantitatively, libraries have been replenished in numerous instances and laboratories have been provided and have been maintained in a state of efficiency unknown to teachers of a former generation. What is equally important, the sizes of our classes both in Schools and Colleges have been rigidly restricted and discipline has been more stringently maintained than ever before. I do not imply that our Schools and Colleges are maintained in a state of perfection; no one feels more keenly their deficiencies in many vital respects than I do; but I do maintain that they are in their present condition far more efficient as agencies for the instruction of our boys and young men than they were eight years ago. Add to this two other circumstances the true bearing of which no educationist of experience will fail to appreciate. Under the New Regulations, our courses of study are of a far more liberal character than they had ever been before; students are allowed a free choice of subjects and are no longer driven by inflexible Regulations to cram themselves with information upon branches of knowledge for which they have no aptitude. At the same time, our

examinations are conducted on more rational lines than before; candidates are allowed a choice of questions, and papers are framed in most instances, not so much with a view to find out what a student does not know as with a view to ascertain what he does know and for which he is legitimately entitled to credit. On the other hand, we have framed stringent regulations for the admission of candidates to examinations, and at every stage, from Matriculation to a Degree in the Faculty of Arts or Faculty of Science, every candidate is required to produce a certificate not only to the effect that he has diligently and regularly prosecuted his studies in the Institution which presents him, but also that he has satisfactorily passed the periodical examinations and other tests and that judged from the work done by him the Head of his Institution is satisfied that there is a reasonable probability of his passing the examination to which he seeks admission. Is it seriously maintained that these certificates, signed by educationists who have been placed at the head of Schools and Colleges throughout the country and in every corner of it, are systematically given as a matter of form and embody untrue statements inserted therein deliberately and without sense of responsibility? I shall not take upon myself the difficult task of making a choice between two disagreeable alternatives,—either these certificates produced by our candidates are deliberately false or they are furnished by educationists without judgment. I will leave it to our critics to make their choice of either branch of this libel upon the earnest and devoted band of teachers to whom has been entrusted the education of our boys in Schools and of our young men in Colleges. I also decline to lend countenance to the

charge, sometimes covertly, sometimes half-openly brought that there is a conspiracy amongst all our examiners in every subject at every examination to depreciate the standard. Apart from the inherent improbability of such a combination, I will mention to you an interesting incident which happened quite recently. One of our well-meaning friends, who has been alarmed at the increase in the number of successful candidates and who apprehended that the result was due to depreciation of standard, was entreated by me to take part in the conduct of the examination for the Degree of Bachelor of Arts. He consented with some hesitation and reluctance, and when the marks awarded by him to the candidates came to be compared with those awarded by his colleagues, it transpired that he had let through nearly twice as many as the most considerate of his fellow-examiners. But, pray do not misunderstand me, I and my friends advocate an elevation of the standard, not merely of examination but also of instruction. We do not desire the circulation of base coin as genuine. We fully appreciate that if our graduates and under-graduates are to hold their own in all the vocations in life and are not to tarnish the fair fame of their Alma Mater, they must be adequately trained. I lay stress, from this point of view, on measures calculated to raise the standard of instruction, and I feel no sympathy with friends and critics whose conscience is satisfied when they hear that thousands have failed at an examination and have been kept out of sight. I feel no admiration for the policy of the ostrich. I desire to emphasize the urgent need for improvement in methods and arrangements, and I feel convinced that if you train the Indian student properly, he will stand successfully the most searching

tests, you may devise. Let us, then, not be haunted by anxiety or alarm at the mere increase in the number of students. But let effect be loyally given to the wish nobly expressed by our gracious King-Emperor that there may be spread over the land a network of Schools and Colleges. There may be unhappy people who are alarmed at the spread of education, and who frighten themselves with the idea that rapid developments in the field of education as also the promoters of those movements are a menace to the country. Let them remember that it is not knowledge but ignorance, not true instruction but bad education, which fails to build up character and proves a source of danger to the community; let them realize also that before their narrow views prevail, they will have to take steps to alter the proud motto of this University from the Advancement of Learning to the Restriction of Knowledge.

I trust I may be permitted to add to this rapid survey of the work and events of the last year, a few remarks on specially important features of University policy. In the first place as to our arrangements for Post-graduate teaching, with which I know fault has been found by some or perhaps many on various grounds. Critics have suggested that at any rate M. A. teaching does not fall within the legitimate sphere of the work of the University, which may be expected to provide teaching of the higher standard—leading up to research—but should leave specific M.A. teaching to the Colleges; and, again, fault has been found with our actual teaching arrangements, our accommodation and like matters, and doubts have been expressed as to the stability of our scheme. That it is just Universities which should undertake M.A. teaching may easily be and

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has indeed been argued on general grounds: but I prefer to take a more practical line. Our University has come forward to take upon itself an important part of the M.A. teaching in Bengal, because there was an urgent need that it should do so, because there were no other agencies to supply what the times required. You remember that as soon as the New Regulations came to be enforced, the old M.A. Classes vanished and rightly vanished, with a few exceptions notably those of the Presidency College, for the simple reason that almost all the Colleges were not judged, did not indeed judge themselves, to be in a position to provide M. A. teaching in any way corresponding to the requirements of the New Regulations. Such was the general state of things in 1906; such continues to be the state of things in 1914. I have neither time nor desire to discuss at length this evident fact. Now, no body I assume will maintain that Bengal is to remain without M. A. teaching. How then is such teaching to be provided? Is the entire task to be entrusted to one institution, let us say the Presidency College which is financially as strong as the Government of Bengal chooses to make it? This is not possible for the very simple and manifest reason that the Presidency College, however well staffed and equipped, can take in only a small fraction of the students who ardently seek for assistance and guidance in the fulfilment of their ambition to go beyond the B. A. stage. Apart from this, the authorities responsible for the maintenance of the College really were exceedingly slow to bring their institution up to the new standards even in a few branches of study. I cannot refrain here from the general observation that it took a long time for educationists to recognise even in this Prov-

ince that the new Regulations for the M. A. degree prescribed courses of study essentially different from and superior to the old courses. The former M. A. teaching, as we graduates of the older generation knew it, was nothing but a somewhat more leisurely and languid B. A. teaching. The M. A. teaching, as contemplated by the new Regulations, is at any rate intended to be instruction in a highly specialised department of knowledge. New agencies had manifestly to be created; and the idea that the University should take upon itself a task to which the Colleges were not adequate presented itself so naturally, so inevitably that I consider it altogether needless to dwell on this point. It was first thought, at least by many of us, that the University might carry out the new task by a judicious use of existing agencies, that is, in this case the higher sections of the teaching staff of the more prominent affiliated colleges; in other words, the best B. A. teachers of these Colleges might, it was thought, form in combination a staff of University M. A. Lecturers. Our first tentative steps were in fact dominated by this idea. But this scheme, though attractive to the theoretical eye, soon showed itself to be entirely impracticable. Colleges which can hardly manage B. A. Honours teaching cannot afford continuously to depute their best teachers for M. A. work in the University classes. An arrangement which depends on the goodwill merely of a number of independent agents is generally not to be expected to work harmoniously and without constant breaks. It is a most difficult, really impossible, task to arrange a working time-table when the Lecturers are bound to consult in the first place the interests of their Colleges, not those of the University. Every one may easily work out for himself other

difficulties inherent in the scheme. Let me point only to the one further fact that it inevitably excludes from so-called University work the staff and students of all Colleges not situated in one centre, Calcutta in our case. There was no help: the plan of the University M. A. classes, if it was to succeed at all, demanded the immediate creation of more permanent, more reliable, and more manageable agencies, that is of a body of teachers who would devote themselves entirely to University work and would have over themselves no other authority but the University itself. The advantages of this plan, indeed, are so patent that, in spite of what I stated just now as to the attractions of the co-operative College system, it would beyond doubt have been suggested and accepted from the very beginning, had it not been for the financial difficulty. Well, we have had fairly good fortune in this respect. The influx of eager and enthusiastic learners into the University M. A. classes has been so great that the teaching department of the University is at present almost self-supporting. This, as our friends apprehend and as our critics inwardly wish, may not last for ever, as our numbers may fall; but I venture to declare that an institution of this kind, with so vigorous a life and so undeniably meeting a great want, will in all fairness and according to the principles of educational policy hitherto avowedly followed in this country, be fully entitled to further substantial help from Government, even if its numbers should be one-half or one-third only of what they are now.

We have a very competent staff, both for ordinary M. A. teaching, and, in certain directions, at any rate, for higher developments. That the staff should gradually be strengthened we admit; this will mainly be a

question of means. But meanwhile we claim for ourselves that we do much which no other rival agency could possibly undertake at present. I energetically deprecate the idea that a rigid dividing line may be drawn between M. A. teaching, and certain higher courses of instruction, let us call them research courses. M. A. teaching need not primarily aim at fostering the spirit of original research and investigation; but it should somehow be imbued with the spirit, so that specially qualified youthful minds may have a chance to catch sparks of its fire. All our students when they take the B. A. degree are past twenty: it is surely time then that the further courses of study they may wish to undertake, should possess a genuine academic quality and that they should not be told to stay contented with a mixed up glorified B. A. teaching until they have taken their M. A. degree. The presence and influence of the University Professors should help to impart to our M. A. instruction that peculiar flavour which distinguishes academic teaching from school teaching; and, as a matter of fact, all our Professors do take some part in M. A. teaching, either directly or—as in the case of Dr. Young,—by organizing and stimulating the work of the regular M. A. teachers. Our present accommodation, no doubt, is scanty: the financial difficulty is heavy, and every one knows what serious obstacles beset all attempts at expansion in this quarter of Calcutta. In this point also, we confidently look forward to help—help earned by the courageous attempt to initiate a great new movement under adverse circumstances. And our present accommodation, although, indeed, far from ample, does not at any rate preclude the possibility of useful work. We do not dream of establishing for ourselves a mon-

opoly of M. A. or research teaching. We shall welcome all sound competition: we feel ourselves free from the spirit of jealousy. Other institutions may do work as good as ours: they may possibly even do better work. But I here wish to emphasize two points. We shall, in the first place, strenuously oppose all attempts that may be made to judge us by standards arbitrarily set up by unsympathetic outsiders. While we readily acknowledge that there may be other ways and methods in the sphere of higher instruction, we claim the right to proceed in our own way, and refuse to be judged on any other ground than that of the ultimate results of our work. In the second place, I do not for a moment hesitate to claim for our scheme and arrangements, necessarily incomplete and imperfect as they at present are, very distinct advantages over any rival scheme and arrangements now in existence. I shall here speak with perfect plainness. I, and I may add with confidence, many of us, do not consider institutions, such as our present Government Colleges, as places likely to develop into homes of true University teaching. I do not mean to ascribe the fault to the teachers who compose the staff of those institutions, many of whom, I know, are men of very high ability. But the conditions under which they work are altogether unfavourable. It will take a long time before the old tradition that the efficiency of a College is to be measured by the results of its B. A. work will pass away: at any rate, the eventual M. A. teachers will continue to be clogged with the responsibilities of heavy under-graduate teaching. The Principal will continue to be absorbed by administrative duties. But there are even graver difficulties. The career of a Government College Professor offers, in the case of

Europeans, at any rate, absolutely no attractions. The position is held in indifferent esteem; the pay is, according to general Indian views, decidedly mediocre. The Junior Professor, therefore, has as a rule no higher wish than to cease to be a Professor; he very naturally aims to become, as soon as possible, a Principal, probably in a College outside Calcutta, or an Inspector of Schools with a higher pay than a Professor, or, an Assistant Director of Public Instruction, or if he can manage it, a Director of Public Instruction. Is there, I frankly ask, at the present moment a single Professor in a Government College in Bengal who would not at once—had he the chance—go as Director of Public Instruction to, let us say, Bihar and Orissa, or Burma, perhaps even Assam, giving up without hesitation, although, perhaps, not without a secret sigh, the hopes and ambitions which he may have cherished that one day he may become a distinguished teacher, writer or investigator, in some special department of knowledge? I would not for a moment blame him for his choice: if, perhaps, not ideal, it is altogether natural, we may say inevitable. But it is evident that a system which constantly tends to deplete Colleges of the most talented and ambitious members of their teaching staffs and to divert those men into non-scholarly careers, is an effective check on the development of an academic spirit in the higher sense in those institutions. Altogether different, I trust, will be the conditions in our new University College. Even now, with our very limited means, we have been fortunate enough to attract into our ranks men of high eminence who are contented to stay there, and devote themselves to teaching, writing and research. That they stay with us in a single minded spirit, and con-

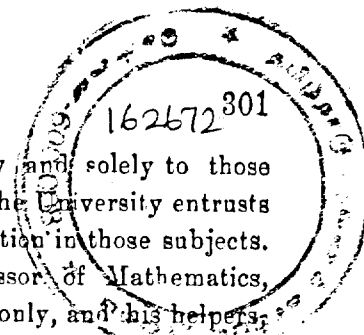
centrate their minds on the interests of the institution and their own private work directly connected with those interests, is indeed an essential condition of their appointment. We shall no doubt by and by require ampler means in order to attract and retain the most suitable men: we cannot expect that the good fortune which we had in our first appointments will continue. However this may be, I do not despair that we shall bring forward in course of time a new type of men, of true University Professors in the European sense; and that to such men among us, there will be not denied in the future that position and esteem which they already enjoy in every civilized country except India, is, perhaps, not altogether beyond the scope of hope.

There are two further points on which I venture to claim your attention for a short while. In the first place, I wish to emphasize that the recent new developments of our University must be met by suitable changes in our constitution. I do not touch upon the wider question of a general revision of the Regulations—this was accomplished in the case of the Faculty of Medicine last year, though the orders of the Government of India have not yet been issued, and the proposed changes in the other Faculties will have to be taken in hand before long. But, meanwhile, certain important modifications are urgently needed. A University which has actually widened and changed as much as ours has done within the last few years, manifestly cannot work under rules framed years ago in view of an essentially simpler organization. The question is of a highly complicated character and will require the most careful elaboration. Here I wish to invite your attention to one specially important aspect only. We at present employ experts, headed by University Professors, for

most of the higher branches of study; that is, we have small bodies of men to whom there must necessarily be assigned a part at least of the functions hitherto exercised by the Boards of Studies elected by the Faculties. Not to do so would be to lay lame the new development in one of its most essential features. To delimitate the respective functions of the old Boards on the one hand and the new bodies of experts on the other hand, will require a great deal of insight and tact; but certain outstanding features appear to reveal themselves at once. We may admit, I think, that the Senate, composed of men chosen for their general culture and learning and their special knowledge and experience in matters educational, may remain entrusted as hitherto with the function of determining the general courses of study to be followed in our Colleges up to a certain standard, possibly the B.A. standard; for up to that stage, the education and instruction imparted to our students is, on the whole, of a general non-specialised character, and the questions likely to arise in connection with it are of such a kind that a man of sense and culture may be held capable to form a judgment on them. These matters, consequently, may be left as hitherto, to the existing Faculties acting through the Boards of Studies. On the other hand, it is evident—and I wish to emphasize that the view I now advocate, though no doubt rendered clearer by recent developments, is by no means altogether novel, but has since a long time urged itself upon the attention of critical observers of the proceedings of the University—it is evident, I say, that all the arrangements as to the higher specialized courses of studies, that is, the M.A. courses, the conditions for admission to the Degree of Doctor, and other like matters,

should be left entirely and solely to those special experts whom the University entrusts with the task of instruction in those subjects. The University Professor of Mathematics, to take one illustration only, and his helpers, i.e. all the M.A. Lecturers in Mathematics, will, under this system, ex-officio determine the higher courses, text-books and methods of examination in Mathematics: they will not require to be elected for that purpose, nor will their privileges in that direction be shared by any one who is not one of the higher Mathematical teachers. The same arrangement will hold good with all branches of higher learning for which the University has special teaching arrangements. These Boards of Higher Studies will be composed not only of University teachers in the narrower sense but include all the higher teachers in affiliated institutions as well.

There now remains one further topic only, on which I cannot on this occasion refrain from making a few remarks, a topic, indeed, of the deepest importance, which I approach, I will not say with apprehension, but with a very special sense of responsibility. The topic is one on which I have not touched in any previous Convocation Address, although it has constantly been in my mind and more than once has tempted me to give it utterance. If now I speak out with some measure of freedom, it is because a man, who is about to take leave from an important office, on the one hand may claim certain privileges, and on the other hand feels more strongly than ever the imperative call of duty. The question which agitates my mind is that of the degree and measure of ultimate independent authority which a corporation such as the University of Calcutta is entitled to claim. It is well understood that an Indian



University, which is the trustee and guardian of great public interests, is ultimately accountable for all its measures to Government, whether that Government be provincial or supreme. The Universities rest on legislative enactments, emanating from the supreme authority; their functions and duties are defined thereby, and they may legitimately be held accountable to the supreme authority for the way in which they exercise their functions and discharge their duties. Cases are imaginable in which a University might grossly neglect its duties or else take measures directly opposed to great public interests, and thereby might render itself liable to incisive interference, possibly complete suspension of its functions, by the supreme authority. This no body will dispute in an extreme case, in a crisis of a grave nature. But without imagining crises of so exceptional a nature, one may also admit that the supreme authority is, in the interests of the community, entitled, pay bound, to follow with attention the work of the University and, should the public interest clearly demand it, to interfere, possibly with a remonstrance, possibly even with a veto. Cases again may occur, in which the Government are in possession of important information which was not shared by the University authorities at the time when they decreed a certain measure, and in the light of which that measure may appear objectionable or altogether impossible; in such cases, intervention on the part of Government, in some form or other, may possibly be justified. These general principles need not be seriously disputed. The doubts and difficulties begin when we come to concrete cases, and try to define the exact line which separates the sphere within which what

for the sake of brevity I will call Government interference, is justified, from the sphere within which the University authorities, in the interest of efficient discharge of duty, should be allowed absolutely free hand. The task of delimitation, no doubt, presents difficulties; but it cannot be declined. For I do not hesitate to say so—there have been, in the course of the last three years, instances, by no means few, in which the action of the University has been interfered with in a way which I cannot characterise otherwise than needless. Let us consider for a moment the lines on which the University is constituted. Ultimate authority in all University matters rests with the Senate. The Senate of the Calcutta University consists of one hundred Ordinary Fellows, of whom eighty are directly nominated by His Excellency the Chancellor. It may be assumed that care and judgment are exercised in the selection of men who are fully fit for their important position, men who have given general proof of capacity and character, and who moreover are specially interested in or acquainted with, the various aspects and problems of education in its different grades. Of the remaining twenty members of the Senate, ten are directly elected by Registered Graduates and ten by the Faculties; and we may hence accurately state that the Senate is practically, that is to the extent of ninety per cent., a body of educational experts nominated by Government. The Syndicate, again, the Faculties, the Boards of Studies are essentially Special Committees elected by the Members of the Senate mainly from amongst themselves, under definite rules sanctioned by the Government. The Vice-Chancellor, the business head of the University, is directly nominated by Government, and every important measure proposed

by the Syndicate requires the sanction of the Senate which, as I have said, consists almost exclusively of nominees of Government. An evident corollary of the constitution of the University, thus shortly characterized appears to me to be that the University is a corporation, a priori entitled to all confidence on the part of Government and fully entitled to independence of action within its own sphere, a sphere quite sufficiently limited *ab initio* by University Acts and Regulations, which lay down with great rigour the general line on which the University has to be managed. But is such independence practically allowed? Far from it, as the history of the last ten years amply proves. I, on purpose, refer to those ten years, because they represent a period of unusual activity which offered quite special opportunity to test the soundness of the present rules of procedure. To make the situation quite clear, allow me to give a few details, which in this form are not exactly actual but are very fairly representative of the actual.

Let us assume that the Faculty of Arts proposes, the Syndicate assents to and the Senate finally sanctions a motion to the effect that the subject of Comparative Philology should no longer constitute an independent subject for the M. A. Examination, but should be combined with the subject of Indo-Aryan Philology. With what possible advantage, I ask, can a resolution of this kind be submitted, as it is now required to be submitted, to Government for sanction? Is such a sanction absolutely formal or not? In the former case, let the present rule of procedure be dropped, it encumbers and delays business. In the latter case, may the Secretary of Government, into whose hands the resolution will go, be

expected to be an expert on this question as well as on all similar ones? Or, is it desirable that he should be allowed to criticize, eventually to reject, the recommendation made by the best experts of the University, who themselves are Government nominees, on the basis of advice tendered to him by some expert, real or *soi disant*, whom he may have an opportunity to consult on the matter? Take another example. The Syndicate, after long and careful consideration of some question of affiliation, recommends that a College be affiliated to the B. A. Honours standard in a subject. The Senate joins in the recommendation. The Secretary of Government at Simla or Delhi, to whom the recommendation is submitted, objects, perhaps for the reason that the particular Professor who will have to teach the Honours subject, and about whom the Secretary personally knows nothing whatever, has taken only a Second Class in the M. A. Examination. The Syndicate replies that they have carefully gone into the question, that no first class man is available for the post, that the designated Professor is personally known to the Members of the Syndicate and is judged by them to be fully competent for the work proposed to be entrusted to him. To this the Secretary replies, perhaps, that he is satisfied with the explanation, or perhaps, that he is not. Further correspondence follows; the result is either that the opinion of the fully competent men on the spot is, in the end, accepted after a protracted, vexatious and possibly injurious delay, or, what is equally likely, is rejected by an official whose competence in the question is unavoidably less than that of the Syndicate. Every one acquainted with the history of the University in recent years will remember numerous similar instances. What

I have said suffices, I think, to prove the imperative need of a thorough revision of the present rules and modes of procedure. The University, may justly, in view of its fundamental constitution and character claim a wider scope of independent, untrammelled action than it possesses at present. No University can grow which is not free from all external control over at least the range or the modes or the subjects of teaching. Interference with its liberty, within a certain sphere, is after all injurious to the interests it represents : if, nothing more, it creates delays and makes the procedure needlessly cumbersome. May I add a little finishing touch to my brief description of the present situation? Is it really necessary, I ask, that when a college applies for affiliation in Hebrew to the B.A. standard, it should, in support of its application, submit to the Syndicate for transmission to Government, a gigantic tabular statement, several yards long, showing in detail the superficial area, correct to the fraction of an inch, of every class room of the College?

Allow me a few further words on a special branch of the general topic with which I am now dealing— on what I may term the financial liberty of the University. The Indian Universities have necessarily ceased to be entirely self-supporting institutions. The new demands made on them by the Indian Universities Act— an Act prompted by the consciousness of the absolute need of such demands,— have deeply affected our financial position. The old situation was simple : we had merely to take care that the fees charged for admission to examinations should suffice for the salaries of the Registrar and his staff, for the charges connected with the examinations (the principal item here

was the fees of examiners) and for a number of other kinds of expenditure which may be termed minor. As a matter of fact, all this could be provided for on the basis of a system of very moderate fees. But now enormously greater demands are made on us. We are called upon, by the Indian Universities Act, to appoint University Professors, Readers, Lecturers, to establish Libraries and Laboratories, and in general to take whatever steps may be conducive to the furtherance of Learning and Research. All these demands would, it is evident, be futile, mere empty words, if there was no reasonable hope of means which could enable the Universities to cope with their new tasks. Here, claims on the Public Funds are clearly justified ; and we gratefully acknowledge that the Government of India, as soon as the Indian Universities Act was passed, not only readily recognised the new situation but came forward as actual helpers. Considerable grants have, in the course of the last few years, been made to the Universities for the general purposes indicated above, and I venture to maintain that the University of Calcutta has made excellent use of the share allotted to it. In addition, we have three University Chairs, for the foundation of one of which we are indebted to the late lamented Lord Minto and for the other two to our present Chancellor. We have thus made a beginning, at any rate, in the sphere of University teaching ; but we cannot too strongly emphasize that it is no more than a mere beginning, and that even to maintain what so far we have established, ampler funds are required in the near future. The main point in this connexion, however, is that whatever financial help we receive, should be permanent

or at any rate assured for fairly long periods. To grant funds for a Professorship, with the proviso that the grant may be suspended at any time, implies a practical contradiction ; for how can the University attract really good men—such men as are absolutely required if our new scheme is to succeed—unless it can guarantee to them a certain fixity of tenure? The position imperatively demands sympathetic consideration from a truly statesmanlike point of view. We are engaged in a great work: we have had assurances of sympathy and some amount of actual assistance on the part of the Government. Our work will be rendered nugatory, unless we are assured that the sympathy and assistance will be continued. I hardly need elaborate the practical conclusions to be drawn from this short exposition of our situation. But I wish to go further, beyond this short indication of present needs. I maintain that a University, constituted as ours is, composed mainly of a body of nominees chosen by Government, presumably because specially qualified to give advice and direction in all higher educational matters, may very justly claim to be regularly consulted as to its financial needs also. The University is a great public concern, entrusted with the care of public interests of the most vital kind; why should it not be allowed a voice as to what share of the public revenue might be devoted to University purposes? At present whatever we do, we do in the dark as it were. Grants are made from time to time, fortunately. But on what principle? What steps are taken to ascertain the needs of the University, and to regulate financial help in accordance with these needs? It surely is time to recognise explicitly that under the Indian Universities Act great new functions, great new responsibilities devolve on the Universities, and that

decisive steps must be taken to put the Universities in a position satisfactorily to discharge those functions, fully to meet those responsibilities. It is high time that all this should be realized and that suitable action should be taken ; the present confused and disheartening position clearly cannot last much longer without serious detriment to the cause of University education in this country.

I make no doubt that the members of this University will understand me, will feel with me, if I state that the present occasion is to me a moving one, I may say, a solemn one. I have addressed as Vice-Chancellor seven ordinary Convocations before this day. It is now eight years ago that the confidence of the Government of India summoned me to the place and dignity which I shall now relinquish in a few days. Eight years is a long span of time, and as time is most truly measured by the amount of work that may have been achieved or attempted within it, these last eight years really mean for me a much longer period. For, although I may sincerely assert that, from a very early stage, my life has been an exceptionally laborious one, the period during which I have presided over this University has made vastly greater claims on my energy and strength than any previous period of the same duration. I need not point out to you that the duties of my permanent judicial office are unavoidably and unremittently heavy; nor need I refer to all those minor—but, in their aggregate, by no means slight—calls on my time and working power, which a man in a certain rank and station cannot decline. Nor need I dwell on the fact that the duties of the Vice-Chancellor of one of the great Indian Universities are not exactly light or unimportant, under any circumstances; even the routine work of an uneventful

period consumes much time, and demands a good deal of patience, if nothing more; and I believe no Vice-Chancellor has ever passed, even through one of the normal terms of office, without an occasional call to grapple with business of grave import and high responsibility. But, in my case, the period of office has not only been unusually long, but it has imposed upon the business head of the University, an absolutely unprecedented burden of toil and responsibility. No doubt, I entered on my University work with a clear discernment of what in general awaited me. I assumed office at a time when, after a strenuous and protracted effort, the Senate had failed to complete the New Regulations required to be framed by the Indian Universities Act, and the first duty devolving upon me was to preside over the deliberations of a Special Committee appointed to frame a complete body of New Regulations for promulgation by the Government of India. The task was onerous in the extreme, notwithstanding the valuable drafts prepared by the Senate as the result of many months of deliberation and in spite of generous assistance of able and experienced colleagues. The next urgent task—a task infinitely more trying than the one first accomplished—was actually to reshape the life and working of the University, on the basis of what had been settled in theory. The task was one to make even the most courageous and ambitious aspirant to the dignity of Vice-Chancellorship pause and consider. The general aims to be worked for, no doubt, were indicated with sufficient clearness by the Indian Universities Act and by the New Regulations framed in accordance therewith. But masses of details—the order of work, the constitution of new agencies, the modes of procedure and other like matters—

had to be determined independently, and it was manifest that the true practical difficulties would reveal themselves only in the course of operations. It would be difficult, hardly possible, in fact, to characterise in one brief sentence all the demands the Indian Universities Act made on the Universities—thorough re-organisation, reform, revolution, each of these terms would, in a way, be justified, but would express one aspect only. But I was sanguine and cheerful at the time: I appreciated the honour of the call to the helm of affairs at so critical a period, and it had always been my ambition to be allowed to do something—something great as I flattered myself in my youthful dreams—for the good and the glory of my Alma Mater. The thought that the opportunity had come delighted me; my imagination was fascinated by the picture of all that might be accomplished, and the idea of great obstacles to be overcome only heightened my energy. I accepted office.—And then, indeed, there began for me a time of great toil and trouble! Do not, I pray, tax me with undue egotism, if in this part of my address I so frequently have to refer to *myself*, to *my* work, to *my* troubles. My labours and my troubles have been shared by many, and I rejoice in the opportunity now afforded to me to give emphatic public expression to the sincere gratitude I owe to all those individuals or corporate entities—who in the course of the last eight years have co-operated with me so strenuously, willingly sacrificing leisure and convenience. Greatest of all is my debt to that Body which, although not ultimately responsible for the policy of the University, yet shares with the Vice-Chancellor the high responsibility of initiating all important new measures, I mean the Syndicate. Throughout these eight years, with the sole exception of

a few weeks' holidays, there has been a long Syndicate meeting on every Saturday—not to mention numerous extra meetings—and on no occasion were we compelled to adjourn owing to the absence of a quorum. Indeed, I have ample reason to felicitate myself on the help of colleagues so nobly, so generously responding to the often rather merciless claims I had to make on them. My debt to them is immense. At the same time, it is a fact that in all the more important branches of University work, the Vice-Chancellor himself necessarily has to exercise two functions to which the highest responsibility attaches—he has to introduce new important measures, and he has to guide the Syndicate to profitable and if possible unanimous resolutions to be laid before the Senate. These duties are not light ones, even in calm and non-controversial periods, but they become grave, nay formidable, in times of storm and stress, when circumstances demand vital changes and drastic measures, and you all know that such were the circumstances during the last eight years. Reforms of the most incisive kind had to be carried through in every department of University life; demands formerly unheard of had to be made on all who claimed privileges in connection with the University. The mere routine labour to which all this gave rise was, I may truly say, enormous; but what was much more burdensome was the anxiety, the mental distress, unavoidably caused by business of this description. I do not so much mean apprehension and anxiety as to the success of new measures proposed; what I have in my mind rather is the necessity under which the advocate of revolutionary steps sees himself to challenge opposition, to hurt the feelings, possibly of the best of

friends, to incur the risk of having his motives and aims misconceived and misinterpreted, to attack what are called vested rights and traditional privileges. All this distress, all this bitterness, we the working members of this University have tasted in full measure. The last eight years, in truth, have been years of unremittent struggle; difficulties and obstacles kept springing up like the heads of the Hydra, each head armed with sharp and often venomous fangs. A late lamented member of the Syndicate once very aptly alluded to the toil of the Syndicate and the Vice-Chancellor as truly Herculean. Of myself, I may say with good conscience that if often I have not spared others, I have never spared myself. For years now, every hour, every minute I could spare from other unavoidable duties—foremost among them the duties of my judicial office—has been devoted by me to University work. Plans and schemes to heighten the efficiency of the University have been the subject of my day dreams into which even a busy man lapses from time to time; they have haunted me in the hours of nightly rest. To University concerns, I have sacrificed all chances of study and research, possibly, to some extent, the interests of family and friends, and certainly I regret to say a good part of my health and vitality. Do not imagine, however, that I repine at the sacrifices made. I have had my reward in many ways. I need not remind you that great comfort springs from the consciousness of rectitude of purpose, from the conviction that the cause to which one devotes all his strength and for which one renounces the ordinary delights of life, is a high and sacred one. But, in addition, I have enjoyed many bright moments of a more definite character. I have been cheered by ex-

pressions of confidence and approbation on the part of successive Chancellors and Rectors, by the sympathy and applause of friends, by a long continued series of successes, and even the constant toil and strife have not been devoid of inspiring effect, for, as you know, there is such a feeling as the 'joy of battle;' much of those successes was of a merely transient nature, but much also persist, may claim to be called permanent, nay imperishable. For it would be false modesty on my part, now that I am about to vacate the office of Vice-Chancellor, not to acknowledge that during my term it was given to the Senate, to the Syndicate and to myself, to render to our University services the greatness of which can not be disputed. I confess to a feeling of high pride when my thought dwells on what has been accomplished within the last eight years. I will not detain you with anything like a complete enumeration of details and will say nothing as to all those measures, highly important as they were, which aimed at no more than the reform and improvement of existing agencies and institutions. A higher feeling of pride and satisfaction naturally connects itself with the thought that a considerable portion of what we have accomplished may be designated as a new creation, that we have planned and carried out what had previously hardly been imagined and certainly not attempted either here or in any other Indian University. It is no slight thing to have initiated, at any rate, a comprehensive scheme for the satisfactory housing and the superintendence of the entire student population, a scheme, the fulfilment of which has been unhappily retarded by the lack of needful funds. It is no slight thing to have effected a total reform of legal education in

Bengal and to have built up a noble University Law College, where instruction in Law is imparted to hundreds of students on a plan infinitely more methodical and comprehensive than anything in the same line ever dreamt of in India. It is a great thing to have found means to open once more, to the gain and benefit of our University, the sources of private liberality which for so many years seemed to have run completely dry. And—here I must confess to a feeling of quite peculiar quality and intensity in which there are blended proud delight, reverential gratitude to divine Providence, a deep sense of obligation to all our kind helpers from Government downwards—it is a truly great thing to have contributed towards that great widening and raising of the functions of our University which has accomplished itself within the last three years, to have assisted at the birth of the *Teaching University* of Calcutta. As to the history of this great, this epoch-making movement, I need not add anything to what I have said in an earlier part of this address. I realise to the fullest extent how far we are as yet from the complete establishment of those Teaching Faculties which our Gracious King-Emperor, in his reply to our loyal address, pointed out as constituting the most urgent need of our University; but I think we are entitled to feel largely satisfied with the beginning we have made. The gathering of the highest section of our present teaching staff was indeed a laborious and delicate task, but our labours have not been without an ample measure of reward. I rejoice to see the chair of Mental and Moral Philosophy, called after our Gracious Sovereign, filled by my distinguished friend Dr. Brajendranath Seal, who, we all hope, will now find the long desired leisure to give its final form to the

great Synthetic System of Thought which he has been silently elaborating during so many years. It fills me with special pride that in Dr. William Henry Young we have a Hardinge Professor of Mathematics of the very highest eminence, one of the great leaders in the domain of modern mathematical speculation. It is a source of infinite satisfaction to me that we have been able to engage for the chair of Ancient Indian History and Culture, associated with the name of His Excellency the Governor, the services of Dr. George Thibaut, a man in whose mind study and reading of the widest extent and continued during a life time, have matured the golden fruit of wisdom, and who is fitted, as few indeed are, to do full justice to all the aspects and phases of Indian life and Indian intellectual development throughout the ages. I congratulate myself and the University on our having prevailed on a man so intimately associated with the development of higher education in Calcutta and so justly revered and loved by many, as Professor Henry Stephen, to undertake the teaching of English Literature in our M.A. Classes, with the collaboration of Professor Robert Knox, a distinguished alumnus of the University of Oxford. I welcome in Professor Hamilton and Professor Strauss worthy representatives of modern English economic thought on the one hand, of the great philological schools of Germany on the other hand. I note with special delight that in the ranks of our M.A. Lecturers also, there are men so distinguished for powers of original thought as Dr. Syamadas Mookerjee and Dr. Hiralal Haldar, to mention two only of the most brilliant names. I think with pride and deep satisfaction of the new University College of Science, the foundation-stone of which it was given to us to lay yester-

day, and of the highly competent staff of teachers and investigators who before long will be congregated there,—foremost among them Dr. Prafullachandra Ray, of whom Calcutta, Bengal and India are so justly proud. In addition to all these teachers, permanently attached to us, I recall to your minds the series of European scholars of the highest distinction, who, as Readers of the University, have delivered to our students special courses of lectures—Dr. Felix Schuster, Dr. Gilbert Walker, Dr. Hermann Oldenberg, Dr. Hermann Jacobi, Dr. Paul Vinogradoff and others—the lectures of all of whom have been or will shortly be published by our University. Nor must I forget our Indian Readers and lectures like those delivered by Babu Dineschandra Sen on the History of Bengali Literature, which also mark an epoch in their way. I may further recall to your mind the series of excellent theses written in recent years by Graduates of the University for the Degree of Doctor in the several Faculties, for the Jubilee Research Prize and for the Griffith Memorial Prize. Truly, the signs of the awakening of higher intellectual and scholarly ambitions among our students are not absent; a new spirit is abroad amongst us also. It is evident to me that the educated section of my countrymen is convinced that new intellectual agencies, new organisations for the advance of knowledge, learning and research are an imperious need of the times, that they are satisfied that the University of Calcutta should be the leader in the new movement, and that what so far we have accomplished has their approval and has inspired them with that confidence in our powers and good-will which we require for our further advance. I repeat, the thought of all this is a deep comfort to my soul.

The joy and pride to which I confess are not, however, all unmixed. I too vividly remember, I too intensely feel the after-effects of all the struggles we had to pass through before the accomplishment of our aims, not to feel at times seriously anxious as to the future of what I may call the New University. Though much has been done, more remains to be done, and who knows what the future may bring. I at times truly feel like the careworn toiler of the soil, when, on fields first brought under the plough by him, he at last sees the earliest tender green shoots issue from the ground. He dwells in remembrance on the long series of hard labours he had to undergo in order to carry things so far—the felling of trees, the digging out of stubborn roots and stones, the draining of marshy soil, the clearing of obstructive weeds, and then finally the toils of ploughing and sowing. Now, at last, the first fruits of all this labour begin to show themselves, refreshing his eyes and gladdening his heart. But yet how much may not intervene before full fruition is obtained, before, from the delicate emerald shoots there have risen the serried ranks of rigid ears, each of them proudly balancing at the top its little treasury of golden grains, and, again, how much may not happen before all those precious grains have been safely gathered and stored in barns, ready to supply wholesome food for the cultivator, for his family, for his tribe. Untimely drought may wither the young stalks, storms and rain may beat down the ears, fierce hail may lacerate them, noxious insects may destroy the ripening grain. The cultivator has done his best; he now stands helpless; nothing is left to him, but to hope, to pray and to trust. I repeat, I at times feel like that toiler of the fields.

I too, or let me rather say, we too—I and

my helpers—have worked in the sweat of our brows, have spent laborious days and anxious nights; we too have hoped for a glorious harvest, a harvest not palpable but not the less real on that account, a harvest in the fields of the spirit and the intellect, supplying nourishment which a great people needs, no less than wholesome material bread, pure water, a pure atmosphere. We have prepared the ground and now see the first fruit of our labours. But here also how much may not happen to prevent the full ripening of the harvest. I must admit that when I recall to memory all the difficulties it gave us such heavy trouble to overcome, and when I picture to myself in my imagination all the difficulties that may beset the future path of the University, I have moments of deep anxiety. The steady opposition which we had to face is not yet crushed,—and it is all the more dangerous when it chooses to move in the dark. Sympathy has failed us in quarters where we had a right to demand it, and where we confidently reckoned on it. But more even than well defined opposition and clearly declared want of sympathy, I dread want of fortitude and energy on the part of those who at the bottom view our efforts with approbation, I dread that pusillanimity which shrinks at the first rough collision with determined hostility, that cowardly spirit of compromise which so often induces the weak man to accept a fraction of the reward for which he has hitherto contended, while one resolute step in advance, one bold thrust of the arm, might have secured for him the whole glorious prize. All these dangers I vividly realise, and hence my feelings are sometimes not unlike those of the husbandman when he sees dark clouds massing on the horizon and hears the muffled sound of distant thunder. To me also, nothing

is left but to hope, to pray, to trust.

But far be it from me to close this address of mine on a note of fear and despondency. The spectres of doubt and apprehension which at times crowd round the bravest even, vanish into nothingness when faced with resolution. When all is said and done, there is alive in the depths of my soul the unshakable conviction that I and my helpers have, during these last years, fought a good fight; that the light, which has kept beckoning us onward on our rough and dark path, was not the fitful gleam of a willo'-the-wisp, but the steady radiance of a pure and holy flame for ever burning in a glorious temple however far remote—a shrine dedicated to the worship of Truth and the Ideal. Let us, therefore, advance, the banner of progress in hand, with bold but not unwary steps, drawing confidence and inspiration from the consciousness that so many of the best and truest men of our people are in full sympathy with us; that the rising generation has availed itself with eagerness, nay enthusiasm, of the new opportunities we

have created for higher studies; that the sparks of the new inextinguishable fire kindled in our midst have already leapt to all parts of India, and that the Sister Universities are eager to imitate and emulate what we have boldly initiated. I feel that a mighty new spirit has been aroused, a spirit that will not be quenched; and this conviction, indeed, is a deep comfort to me at the moment when I take leave from work dear to me for so many weighty reasons. The workers pass away; the solid results of their work remain and fructify. I thus bid farewell to office and fellow workers, not without anxiety for the future of my University, but yet with a great measure of inward contentment: and—let this be my last word—from the depths of my soul, there rises a fervent prayer for the perennial welfare of our Alma Mater—for whom it was given to me to do much work and suffer to some extent—and of that greater parental divinity to whom even our great University is a mere hand-maiden as it were—my beloved Motherland.

IN THE PRESS

Will be ready shortly.

KEATS: ISABELLA

EDITED

WITH INTRODUCTION AND NOTES

BY

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Mr. JUSTICE SESHAGIRI AIYAR'S SPEECH AT SRIRANGAM.

The Hon. Mr. Justice T. V. Seshagiri Aiyar delivered the following speech at the opening of the New High School premises:—

I am somewhat old fashioned in my beliefs and I was under the impression that the good old saying that no man is a hero in his country is true every where. Apparently there is no force in that old proverb in this holy city of Srirangam. I knew that when Mr. Rajagopal Naidu asked me to come and open this building this evening, that my fellow townsmen had intended to confer on me some signal honour. But I was not prepared for your enthusiasm and for the warmth of your welcome. I must thank you from the bottom of my heart for the very warm welcome you have accorded to me and for the very kind terms in which your President and the gentlemen who have composed the Sanskrit, Tamil and English songs have referred to me and for the very kind way in which you have shown your love and affection towards me.

PROGRESS OF THE SCHOOL.

Gentlemen, the report which has just been read indicates the difficulties that the committee and the staff of the school had to undergo in putting up the palatial building which we see before us. Some of them were very great and at one time, as pointed out in the report, there was even a possibility of Government withdrawing recognition if the committee did

not undertake to provide suitable habitation to this High School. Some of these difficulties would have daunted less strong men; apparently the Committee and the staff were made of sterner stuff and they have shown to us how by perseverance and patience a good cause can be achieved. Gentlemen, the result of the work of the Committee is full of lessons to all of us. We have been known as a people rather prone to pessimism, rather inclined to undervalue the advantage of hopefulness. That has been said to be the characteristic of the nation and it has been repeated from many a platform. I believe persons who have been watching the course of events in this country for the last quarter of a century will have to record a different opinion in regard to that matter. Apparently there is creeping over us in this country the feeling that by perseverance and by being hopeful many a good cause can be won and many a good object can be achieved, Gentlemen, the manhood of a nation depends upon the courage which it exhibits. It can never be brought to prominence if it gives itself up to despair. The work and the result of the work of the Committee are examples of the way in which amidst difficulties, perseverance and courage can overcome all obstacles.

AN ERA OF PROGRESS.

Gentlemen, if you look about you, you will see that there is good room for feeling hopeful in regard to the affairs of this country. Look at any department of activity, look at any phase of life,

you will find that the country shows signs of progress in almost every one of them. Take, for example, Social Reform. In regard to it, our leaders are under the impression that we are not making sufficiently good advance. But those of us who belong to the rank and file will be able to see that during the last 15 years at least, great strides have been made in the cause of Social Reform; and as we have faith in our leaders there is no doubt in course of time this cause will gain immensely in this country. You know, Gentlemen, that politics is a subject that is taboo to me. None the less I do not think there is anything wrong in my saying that the course of history in this country during the last 30 years shows that by perseverance, courage and persistency, many a political right has been achieved; and many a political right can still be achieved if you pursue the same course. Even in regard to our Temples where one might legitimately despair of making any advance, even there, our trustees who do not feel bound to render any account to the Deity whose affairs they have to administer feel that they have to render an account at least to the Board of Control. Now Gentlemen, as I told you, there is progress everywhere. It is only in regard to education that at one time I felt inclined to be pessimistic. After having heard what the Bagavathar has been describing this afternoon about the achievements of Hanuman, one's memory turns back to that memorable discourse which on the ramparts of Ceylon he delivered upon hope and the neces-

sity for hope, and how hope can overcome all difficulties. Most of you will remember those beautiful lines of Valmiki where Hanuman discoursed on the necessity for being hopeful. Therefore, after having listened to that discourse and after having spoken to you about the progress in other departments it may look as if I am going back upon what I said if I now tell you that in the matter of education there has not been as yet the same progress as we find in other departments. I want to make my position clear.

EDUCATION AND COMMISSION.

Since the days of Lord Halifax's Despatch, which is known as our Educational Charter, steady and good progress was maintained until 1857. The progress was so great and so enduring that the Government of the day thought that a University should be established. The Universities were accordingly established in 1857. From 1857 to 1887 the progress of higher education was simply marvellous; about that time the Government thought it necessary to appoint a Commission to enquire into the progress of education. I have always been of the opinion that the recommendations of this Commission were not calculated to advance higher education. The progress since has not been satisfactory. I am afraid I am detaining you very long but on an occasion like this I am justified in taking stock of the work of education in this country.

A HAPPY OUTLOOK.

Although this has been the position of affairs after the days of the Commission I think we have every reason to congratulate ourselves upon the great change which has taken place in the educational policy of Government since 1912. When our Gracious Sovereign came to India to be crowned in this country, one of the most enduring statements that great Monarch made was this: that if you want to eradicate disease, if you want to eradicate insanitation, if you want to eradicate unrest, the surest remedy is to be found in the spread of education. That is what our Gracious Sovereign said in the University Hall at Calcutta. Since then the atmosphere in regard to education has completely changed. You will find that larger grants are made to education and you will find, that so far as this Presidency is concerned, the seriousness of the position is recognised by the Head of the Government taking over the portfolio of education. Lord Pentland, recognising the necessity of acting up to the dictates of our Sovereign has himself assumed charge of education. That shows that the people of this Presidency have every reason to hope that whatever might have tended to retard the progress of education in the past will be set right by our gracious and good Governor. We have with His Excellency as the Head of the Department a gentleman who is well-known to be very sympathetic and inclined to treat generously any attempt

by Indians to encourage indigenous education. Therefore, Gentlemen, so far as this Presidency is concerned, there is the prospect of a brighter outlook in the future. It is all the greater our duty when we find that the head of the Government has assumed the portfolio of education that all of us who can think upon problems of education should place before His Excellency our ideas in regard to them, because His Excellency will naturally look to the leaders of the Society for information before he is able to settle the programme and policy of education. I do not think my position stands in the way of speaking out what I consider to be the defects in the system of education pursued and what I think should be the direction in which improvements should be made if it is to work for the regeneration of this country. We are citizens first; and undoubtedly in that term citizen, is implied our loyalty to the Crown and our love of country. And therefore it is the duty of all who have ideas upon this subject to give expression to them so that His Excellency may be in a position to weigh the ideas and come to a definite conclusion later on.

HIGH FEES.

Now, Gentlemen, I shall very briefly take you through some of the defects which we find in the present-day system of education. I believe it is not inappropriate, Mr. President, on an occasion like this to refer to matters of education. I think it would be germane to the occa-

sion that I should say a few words upon this topic. Now the first thing that strikes me is this: that it is no longer possible to raise the school fees of our boys, and it is no longer possible to raise the examination fees either. You will remember that the Commission, I spoke to you of, was responsible for enhancing the school fees. Only three years ago the highest possible levy was directed to be made from our boys. I think we must convey to His Excellency the Governor the idea that it is no longer possible, if we want to foster higher education, to raise the school fee. I think we can say with confidence that it is no longer possible to raise the examination fees either. This question is before a body solely charged with the care of education, and it is just possible that you and I are not responsible though I am mixed up with it to a certain extent—for the conclusion which the Senate may arrive at. They are sometimes actuated by very many motives and it may not be possible for us to control the Senate. But it is within our province to convey to His Excellency the request that should the Senate at any time decide upon levying a higher fee for the examinations he may be pleased to veto the same, since he has got the power of veto, whatever the power of the Senate may be. Now it has been said in regard to this matter at the Senate meeting that if you do not raise the fee you will get very indifferent examiners, because the examiners have to be paid

well if you want to attract good men. I do not believe a word of it. Now, Gentlemen, I may as well go back for a moment to the days of my Legislative Council. In the Legislative Council I was charged with moving a Resolution about increasing the pay of Assistant Professors in the Presidency College. I moved the Resolution as I thought it was a ver good case. I told the Council that we find B.A. B.L.'s and men in the Provincial Service starting on Rs. 200 or Rs. 250 and that Assistant Professors should also be started on at least Rs. 200. I thought I had made out a good case. Sir Alfred Bourne rose to reply: he said it was only in this country that a money value was placed upon education and retorted that if we go to England we would find many scholars willing to devote their time to the cause of education on a stipend of £100 a year. I was not in a position to refute his statement. He was probably right.

Now, if the Director of Public Instruction is right in his views that Englishmen give their time and energy to the cause of education without caring very much for the amount of money which is paid to them, I do not think that spirit would leave when they come to India. I think we will be justified in telling them that they belong to a country where no money value is set on education and that there is greater necessity for extending that principle to this country; and that therefore they should accept examinerships without looking forward

to any large remuneration. I ask you, Gentlemen, to make it clear that the student population is incapable of bearing any further increase in the school fee or in regard to the examination fee.

EVIL OF SPECIALIZATION.

The second question I wish to refer to is the craze for specialization which is now rampant in this country. Gentlemen, it may be said as has often been said of me that I am somewhat of a reactionary temperament. I do not know what is the definition of the term "reactionary." It may be in the eyes of my friends who see that I want to go back to the earlier days that my ideas savour of a reactionary spirit. But in my humble opinion if you want to really make progress in regard to education you must go back to the older ideals. Now what is this theory of specialisation that has been worked into our system during the last few years? You will find it taking its place in the School-Final Course; you will also find it in the Intermediate and the B.A. Courses. I am afraid those that are responsible for this theory of specialisation do not realise the needs of the country. You want higher education to advance to a far greater extent than it has now done. If you want leaders on whom you would look for guidance in regard to public affairs, in regard to social reform, in regard to political reform and in regard to other matters—you look to the products of our Universities for such lead. Only this morning I was reading an extract which was published

in the "Hindu," from which I find that in America the idea is that University men should have nothing to do with the guidance of political and public affairs and that business men alone should handle these affairs. It will take a long time to attain to that stage in this country. If you want to see social reform carried out, if you want political reform carried out, if you want religious reform carried out, you always have to look to our graduates who have been turned out by the University to give us their guidance. Now if they do not get general education, if they do not understand the history of their country, if they do not understand the history of other countries and if they are specialising in particular branches of knowledge do you ever think that they would make good leaders in regard to most of the movements upon which we want our country to advance? I think it impossible in the present state of affairs of the country to have much specialisation. In other countries where material progress has been made, for example in England and other continental countries, specialisation may have its value, but in this country specialisation has come too soon and I am afraid it is likely to hinder the progress of education rather than help it. Gentlemen, I have given some little attention to this subject. I do not ask you to-day to endorse my views upon this matter but I ask you one and all to deeply ponder over this problem. I have, after giving the best consideration to the subject come reluctantly

to the conclusion that an attempt should be made to turn the tide. It may become impossible for us to stem it later on. I think it is time we take steps to see that specialisation is not insisted upon at any rate in the School Final Course and in the Intermediate Course, whatever may be the position in the B. A. course. To this subject you should be pleased to give your best consideration and make your appeal to His Excellency the Governor not to push specialisation too rapidly in the earlier stages of the Arts Course.

QUESTION OF VERNACULARS.

Gentlemen, you will agree with me, I do not say necessarily that you must agree with me, probably you will think with me, that no discussion upon education will be complete unless I say something upon the question of the Vernaculars. It is a subject that has been with me sleeping and waking. I am not going to take you through the courses that these Vernaculars have run since we started the agitation. You know the result that has been achieved. I am afraid some of you have not been patient enough to wade through the pages of amendments which I moved in the Senate. But I may tell you that we have made a real and substantial compromise in regard to the position of the Vernaculars in the curriculum of studies. We have made it possible for most students in the B. A. Pass Course to take up the study of the Vernaculars. We have made the course of education in

regard to Vernaculars in the Intermediate course fairly complete. And the Director of Public Instruction has promised to make the study of Vernaculars compulsory in the School Final Course. If the Vernaculars do not hereafter make any progress the fault will be at your doors and not at the doors of the University. All that is possible has been done and it is you, the parents who should see that your children do not neglect the vernaculars.

POSITION OF TAMIL LITERATURE.

Now, Gentlemen, in regard to this, before I close the subject of vernaculars it has struck me that we Tamilians have done very little in the cause of our vernacular literature, whereas Telugu people have done a great deal to enrich their literature. As a matter of fact, Tamil literature is more exhaustive and fuller than any other literature. It stands upon its own legs and does not depend upon Sanskrit; and we in the southern parts have not been giving such attention to the cultivation of that literature as our brethren in the northern parts have done for their Telugu literature. I hope, Gentlemen, that you will think over this matter and devise some means to resuscitate Tamil literature.

BIRTHRIGHT OF EDUCATION.

There is one other subject upon which I feel strongly and it is this. A belief has been gaining ground in influential quarters that education should be by compartments. That is to say Elementary

Education should stand by itself and Secondary Education should be complete in itself and University Education should have nothing to do with either of these; in other words, the idea is that there should be water-tight compartments of education and that the access from the one to the other should not be easy. Now, Gentlemen, if this idea were to be allowed to take root in this country the consequence would be disastrous. The Minister for Education in England Mr. Pease, Lord Haldane, and Lord Crewe, the Secretary of State for India, have lately been discoursing upon the subject of education. What they said is this. Education must be such as would give an opportunity for talent wherever it may be found to come to the top. There is good material to be washed out of every strata of society, and nobody has any right to say that a particular section of the community shall stop with Elementary Education alone, another section of the community shall be given Secondary Education, and that only a few shall be given higher education. If I may venture to say so higher education should not be the pastime of the few but should be the birthright of all, high and low. As I told you it would be fraught with lamentable consequences to the cause of education in this country if this idea is to take root and is to be worked out. In education there must be co-ordination. Education should be the test of ability and not a hindrance to progress. The moment that a boy is found to have high intellectual qualities he must be

enabled to advance a step further and to enter the next compartment. If I may venture upon a metaphor I would say that education must be a palatial building with compartments having broad open doors, access from one compartment to another must be easy, until the throne room is reached where the student may rest in ease and comfort with benefit to himself and to his Alma Mater. That should be the aim of education; consequently there should be co-ordination and not restriction.

WORK OF THE SRIRANGAM HIGH SCHOOL.

Gentlemen, I think I have taken a good deal of your time, and I tell you that my interest in the cause of education has led me to linger upon topics which I have cursorily touched upon, but the occasion is unique and I think I need not be sorry for having given expression to my crude ideas. I find, Gentlemen, from the report that has been read that the work of this building has been done most efficiently by the successful co-operation of the Managing Committee and the Teaching Staff. Standing in Srirangam not very far from other centres it is a matter for congratulation that the Teaching Staff and the Managing Committee had been working so friendly in Srirangam. I hope this contagion will spread beyond the banks of the Cauvery and go to some other place where also such a sort of feeling should be evinced. Meanwhile I must congratulate the Committee and the staff upon the excellent

work they have done. The people of Srirangam are grateful to them for the work they have done and for the gift they have made. The thanks of the people are also due to the Government for the munificent donations they have made.

DONORS.

Gentlemen, it is impossible to single out names of donors who have rendered their help to this building. I think however I must make some special reference to the names of some of the subscribers. I must mention the name of His Holiness the Jagath Guru Sri Sankarachariar Swamigal of Sringeri Mutt, who has been cosmopolitan in his sympathies and whose subscription heads the list. I may mention the name of Mr. Khan Saheb Shaik Ismail Saheb Bahadur, who has made such a munificent grant. This shows that in this city of Trichinopoly both Hindus and Muhammadans are co-operating with one another. I must also mention the names of Messrs. Pethachi Chettiar, Ramaswamy Chettiar of Chidambaram and Ramaswamy Chettiar of Thiruvanaikoil. These gentlemen are to be thanked by the public of Srirangam for their munificent donation to the cause of education. They belong to the Nattukottai community who are the preservers of ancient charities and temples. I must not omit to mention the old boys of Srirangam High School. Wherever they have been and whatever walks of life they are in, as schoolmasters, as merchants or as lawyers they

have been contributing their little mite towards erecting a hall in their name.

CONCLUSION.

To them also the thanks of the people are largely due. Gentlemen, it remains for me to thank you most sincerely for the honour you have done me in asking me to open this school building. I have great pleasure in saying that it has been my good fortune to take part in this evening's proceedings; I now declare that this school building is open; I invoke the blessings of God Sri Ranganatha for the prosperity of this school.

NATURE STUDY.*

INTRODUCTION.

THE subject of Nature Study occupies an important place in every school curriculum. I have no doubt that, if taught properly, it ought to provide a great interest to the children. In the ordinary sense, the subject matter includes a careful observation of things around us in nature and an accurate record of these observations by means of written and pictorial representations. It is the opinion of competent teachers that these lessons stimulate the keenest activities of children and promote in a large measure the development of faculties, especially those of observation, which unfortunately have not been attended to till recently. Enthusiastic advocates of the sub-

*A paper read by Mr. C. R. Narayan Rao, M.A., L.T., at a recent meeting of the Teachers' Association, C. & M. Station, Bangalore.

ject have gone so far as to assert that it may be made the means of engendering worthy moral qualities in children, such as truthfulness of observation and record, freedom from exaggeration, habits of precise thinking and connecting cause and effect. The truth of the matter is that a teacher who puts his heart into his work is bound to infect the children with his noble enthusiasm and the result of such a work must be gratifying. Indian children take to the study quite as readily as children elsewhere and as experience has shown, their faculties while tender and plastic can be turned to excellent account, and the elementary school above all is the place where sure foundations can be laid for the future studies of the children. Too much attention in the way of proper supervision and securing efficiency, cannot be bestowed on our elementary schools, and every lover of education must admit that they should be surrounded by a wholesome atmosphere of cheerfulness and joy.

THE ELEMENTARY SCHOOL TEACHER.

Every one who has handled a class of small children learning the alphabet, ought to be aware of the amount of delight shown by them when the teacher takes them out of the room for an observation lesson. It is then that he has afforded him excellent opportunities of noting the individual aptitudes of his wards, and if the teacher has tact and ability, can direct them in useful channels and foster their development, or if the teacher through carelessness or incompetency lets them spend, the chances of a life are lost. Much depends upon the worth of the teacher and, I venture to think, very little on the nature of the subject. He ought to be well-trained in his subject; he should be endeavouring to add

constantly to his stock of knowledge; frequently he should review his past work and ascertain how far the adoption of this or that method of teaching has borne fruit and whether in the light of past experience he could with advantage introduce any change. More than all these things, a teacher of nature-study ought to be a careful observer and a great part of his knowledge should relate to the neighbourhood of his own school and village as a result of his own personal observation. If, on the other hand, his knowledge is bookish, his teaching is bound to be stiff and dull. In the elementary stages, as the teaching has to be carried on orally, the demands made on the knowledge of the teacher and his powers of communicating instruction become obvious. It is therefore clear that the teacher himself has to be a careful student of nature, before he can hope to inspire the little boys with a genuine love of nature. I am at one with those who think that under the existing conditions the position and prospects of the elementary school teacher ought to be improved vastly before he can be reasonably expected to equip himself with the necessary materials for the proper performance of his duties. Before long the authorities, who are evincing a genuine interest in the advancement of Elementary Education, will, it is hoped, find themselves able to provide the necessary funds to secure competent teachers and to equip the schools sufficiently to carry on their work on rational methods.

OUR VILLAGE SCHOOLS.

Our Elementary schools differ from one another in their nature, scope and aims. In accordance with these, the curricula of studies must necessarily vary. For instance, the subjects taught in the village schools cannot

be identical with those prescribed for the urban children. In framing the courses of subjects, it ought to be borne in mind that these should have immediate reference to the future calling likely to be pursued by the children in later life, as inattention to this principle will rob our educational system of much of its usefulness. Nature study ought to occupy an important place in the work of our village schools which can command greater facilities than the town schools which have to devote more attention to Elementary Science. A distinction has, therefore, to be made between Nature Study and Elementary Science for purposes of these schools though the paths of the two cross one another in very many directions. In addition to Nature Study, the village schools ought to teach the three R's, a little of economics, civics, and administration, history and geography of the district and the province, plenty of manual work in the way of Sloyd in wood and metal work; agriculture and all the cognate subjects, domestic handicraft and the industries of the village. Instruction in these subjects should be graduated and spread over three years, while provision ought to be made for specialising in any of the departments of knowledge by competent scholars by a system of scholarships tenable in the more important centres of learning. I wonder whether the present teaching staff in our rural areas is competent to carry on the work which is so diversified in its character and it is encouraging to see that best efforts are put forth to carry on reforms all round.

NATURE STUDY AND ELEMENTARY SCIENCE.

I said that a distinction has to be made between nature study and elementary science. In the lower classes nature study forms part of the Kindergarten system and the spirit

governing the teaching of the subject at that stage should continue in the higher classes also. It is chiefly carried on as a series of observation lessons for which the children are brought in intimate and personal contact with the objects in nature in the open country. While the teacher has to guard himself against stifling freedom and any original observation on the part of the pupils, he ought not to wander but confine the main attention of the class to the lesson on hand. Nature study is therefore regulated Nature observation under proper guidance in the initial stages, and embraces an Elementary knowledge of the chief vegetable and animal forms of the village, the character of the physical surroundings, natural phenomena and seasonal variations including the phase of the sky. Thus you notice that the materials for the nature study are found in Nature and the method is simply a continuation of the natural method pursued by all children from their infancy. On the other hand, Elementary Science would suggest purely school-room study and may not include much of field work. They study is associated in our minds with laboratory and a modest,—according to means,—collection of crucibles, retorts, test tubes, balances, spirit lamps and so forth. Elementary Science includes a wide range of subjects like Physics, Chemistry, Botany, Zoology, Mineralogy, Physiology, Simple Mechanics, and a little Astronomy. You will readily recognise that these subjects are studied by the urban children for more reasons than one. In the first instance the rural population have better opportunities of coming into direct contact with nature than town population. Secondly the latter in the ordinary course of things pass to High Schools and Colleges where these studies are continued and specialised, while the chances of

rural children entering High Schools are very small indeed.

METHOD.

If you ask a University or College man how to teach the natural objects to children it is possible he may suggest "Begin with 'Cell' or 'Elements', or units of measurement." To a specialist this method of study appeals as the only rational and scientific method, and the knowledge of children should be built upon these fundamental conceptions. Whatever may be the force of logic in such an argument, I do not hesitate to think that the method would be utterly incomprehensible to the child-mind and fortunately for us there are no towering specialists in our elementary schools. The subject of Nature Study, like any other subject in the Elementary School must be viewed from the standpoint of the child and the method should therefore be adapted to the needs and powers of the child mind. Every teacher will do well to acquaint himself with the elementary notions of child Psychology in order that he may better harmonise his efforts of teaching which are external with the workings of the juvenile mind, which are internal. Books on Nature-Study are intended for use of teachers and however good or elementary, they may be should never be allowed to pass into the hands of children. The use of books is opposed to the spirit of the nature teaching which is not a study of books. A more rational method based upon the appreciation of the capacity of the child mind would be to lead the class to nature instead of books and let the children watch the growing seed, the swelling bud, the opening flower, the bright colours of butterflies, the flight and song of birds, let them peep into their nests, glance the fly and the grass-hopper

and let them make sketches of these directly from nature. You will agree with me in thinking that this is a better method inasmuch as the child is surrounded by the cheerfulness of nature, in a pure atmosphere, calculated to brace the health of the child and to arouse in him that interest and sympathy, that habit of observation and close reasoning which afford foundation for future scientific teaching,

(In the infant schools, I would use only brown paper and coloured crayons with which the child can represent his ideas by means of drawings. I would encourage the child to express his thoughts orally, however broken and crude they may be. When the child has finished, the teacher can supplement these observations in the simplest language. Nature stories may come in, especially those relating to harvest seasons, the habits of birds and so forth, to rouse the sympathy of the child,—great care should be exercised to eschew all traces of artificiality. The child even at this stage may learn the use of scissors and gum. In the first class and the next higher, the children who will have learnt writing ought to be taught to record their observations. Greater precision may be demanded in the use of crayons and scissors. In the third class collections may be made, pen and ink sketches, water colours, and brush may be introduced and details attended to. Sequence and order should be cultivated in the records of observations, credit must be given to all original remarks, which at this stage should be encouraged. As individuality begins to play a large part in the work of these classes, due provision will have to be made for personal effort. In these classes also nature study will be correlated with other lessons like their

text-books in vernacular, and Geography and an intimate connection established between Nature Study and Agriculture and Horticulture, while work with the scissors and brush will be connected with Sloyd, and handicraft and industries. I have expressed, in very broad outlines and necessarily imperfectly, the method of teaching and correlation and you will find better schemes of work given in all recent books on Nature Study. It would be unwise to adopt them wholesale, for our conditions and requirements are entirely different and a wise teacher would evolve a scheme of his own suited for the needs and capacities of the village school over which he presides.

AIM OF NATURE STUDY.

I shall very briefly allude to the aim and purpose of Nature Study. Method to a very large extent is conditioned by aim, or in other words, it is simply an application of the aim to the laws of the child mind. Every Primary School teacher is aware that in order to insure smooth working he has to enlist the interest and sympathy of the child and they can only be secured by a judicious selection of materials not from books, but directly from nature. Book-learnt knowledge is apt to be illusory, but that gained by personal investigation is likely to be lasting. The part played by the teacher is simply to assist, guide and direct the observations or "talk" of children and he should never fall into the error of supplying information where it can be had through a little personal exertion. Nature study is only a means, and interest and sympathy are her handmaids, for the development of the higher intellectual faculties of the child. In the initial stages the purpose ought to be to help

the pupil to gain a clear vision and greater amount of accurate knowledge of his immediate surroundings. He should also learn to perceive the relations of the different parts of an object to the whole, their relative function in the economy of the organism and the position of the organism or the object and its interrelation in the general scheme of nature. If his teaching has been carried on these lines, the pupil in the final course will have acquired a spirit of scientific enquiry, and the powers to gratify it by his own resources. By this time the pupil will be fit to enter on a University course of education, and with his mental equipment and discipline furnished by the Elementary school teacher, the emancipation of intellect to such a pupil cannot be a distant goal, which is the true end and aim of all our educational systems.

This is an ideal end and we should all strive to approach it as near as possible.

CLASSES.

If the efforts of the teacher is to be attended with any reasonable measure of success, the number of pupils in the different sections of our Elementary classes should never exceed twenty-five. If the classes are large, it is not possible to command the attention of the pupils when out of doors and discipline may suffer. Personally I should regard that these Elementary classes had best be mixed ones. Girls are keener observers and are capable of making really very shrewd and original remarks and their presence ought to stimulate the boys to higher efforts without exciting any of those morbid tendencies such as jealousy. My own experience is that the mind and manners of boys are chastened by girls and as the defects of mixed higher classes are practically eliminated in the lower forms, I

should consider that the interests of education are adequately served by allowing them to study together. Every teacher of such mixed Elementary schools will bear testimony to the more satisfactory, I would say, the higher quality of work that is generally turned out. Such classes are bright and happy, especially when subjects like Nature Study lessons are going on.

ACCESSORIES TO NATURE STUDY.

I should like to say a few words on the accessories to Nature Study. I have alluded to books like 'Nature Primers,' 'Nature Study Readers,' 'Nature Stories' and so forth and their use in class rooms is to be discouraged. They may be referred to by the teacher only so far as they may be helpful to him in the selection of his own materials or offering suggestions in regard to the sequence of presenting them or the method to be pursued.

Pictures, wall diagrams and models have their own purpose and should never be abused. They ought to come in when a lesson, say, on the "Bean Plant" is taught in the class room; the scholars may be permitted to refer to them in their drawings, or in preparing models or let us suppose in identifying the different parts of a flower. They should never be used in the place of actual specimens when they can be locally obtained. In the higher classes if the children have learnt scale drawing and painting, they should be encouraged to prepare and present such picture charts, which they ought to be proud to make a gift of to the school as a memento of their connection.

An organised attempt should be made in every school where Nature Study is taught to form and equip a school museum, however humble it may be in its scope. The idea of a

museum is associated in our minds with costly buildings and stocking them with rare and exotic things. Nothing could be more alien to the purpose of our village schools. A room if available may be set apart in which the objects collected by the pupils may be displayed; certain special preparations, also the handiwork of children or teacher, may find a place; the produce of the village and the district, the various articles of manufacture and industries of the village and neighbourhood, and such other appliances as may be needed to be employed in practically illustrating any portion of the lesson in any of the subjects included in the curriculum. Thus the museum instead of being a curio shop, is an effective means of education. The instinct of collecting and classifying objects is inherent in every child and a judicious teacher will take full advantage of it in educating the boy.

The museum ought to be built by the personal efforts of the teacher and the pupils, though it may receive gifts from the parents; but very few purchases need be made. The initial cost and upkeep need not tax too heavily the slender purse of the village community, and the bottles, shelves, mounting papers, press boards and such other useful accessories may be locally obtained at the expense of a few rupees.

The school garden and aquarium form valuable adjuncts to Nature Study. The former can be laid out very easily in a village school while it is practically out of the question in the crowded cities. I have seen school-gardens maintained in a very good condition by children, though it is desirable that a more intelligent use is made of them. Brightness and colour need not be the chief features of the school gardens; their utility is everything. Each pupil should be held responsible

for the good condition of his plot, and the teacher should insist that he maintains a proper account of his practical work. The following are some practical hints on the construction and the maintenance of the aquarium:—I would locate it in the middle of the garden, if there is no pond in the vicinity of the school, a rectangular glass box open at the top,—the glass panes, being supported in a frame work of iron bands and the whole rendered water-tight by running in cement,—need not be very expensive. The whole secret of success in the management of aquarium is to make it as natural as possible. The water-weeds and even sand and pebbles must come from the pond. A few garden plants may be grown beside the aquarium to keep out light from the sides, as the fish and other creatures such as the water-beetle, their larvæ, fresh water mussel, pond snails and little tortoises prefer to get light from above. If you keep frogs you have to put big stones, taking care that they are not too heavy for the bottom pane, so that these animals may squat on them. To start the aquarium, one may begin by first fixing the glass case in the proper place and growing plants all around. First cover the bottom with pond mud, and then pour water on a large stone placed in the centre to prevent the sand and mud from being washed to one side. Obtain the pond weeds and put them in the aquarium and it is found advantageous to wait till these take root before we introduce animals. Discretion must be exercised in peopling the aquarium with animals; for instance frogs and fishes should not be kept in the same aquarium. Suitable creatures to live together would be fishes, leeches, tadpoles, water-beetles, tortoises and fresh water mussels and pond snails. It is not necessary to change the water daily,

the water can be kept sweet and pure if you change the water weeds which supply both food and oxygen to the animals. Dead animals should be removed at once. The aquarium should be frequently used by the class, for instance in studying the respiratory movements of the fish, or the metamorphosis in the development of the water beetle, the looping movement and bite of the leech or its sucking powers.

NATURE RAMBLES—CALENDARS OR DIARIES AND SOCIETIES.

The bulk of knowledge should be gleaned by children in their outings specially undertaken to explore parts of the village neighbourhood. The teacher, in his leisure hours, should have previously examined the particular locality to which he proposes to lead the class and under no circumstances, excepting of course pleasure trips, should the distance over-tax the energies of children. The prime object of such rambles is to give the little ones an insight into different phases which nature assumes in the different seasons; or expeditions may be undertaken to study the plants or the habits of animals in their native surroundings. In addition to determining the locality, it is essential that the teacher should draw up beforehand a scheme of work to be carried out during these rambles in any season. He shall direct the pupils what specimens they have to collect and should see that no cruelty is wantonly inflicted "out of fun." The children should be taught to identify trees by means of barks, or leaves or flowers; to learn to classify them; they should be able to tell the bird by watching its flight or listening to the song; they should acquire the habit of making rapid sketches, illustrating special features of landscape, or topography.

In the higher forms children ought to be encouraged to maintain private diaries in which they can record their own observations of wind and weather, the position of stars, and the character of the sky, the readings of the school rain gauge, and any other phenomena of nature that may arrest their notice. The cultivation of such regular habits is of supreme importance. They may be induced later to interest themselves in the fluctuations of the market and to note the causes which govern the prices of food-stuffs. If proper supervision is exercised over the accuracy of these observations, they may be incorporated in the school calendar which ought to be in the custody of trustworthy scholars. The results of these observations may be profitably summarised by the teacher in the monthly calendar, the premier position given to the pupil whose work is most satisfactory.

When a class of twenty-five students is turned out in the open country and told to gather all information they could about a particular tree, or the habits of an animal or they are asked to survey a bit of country and prepare sketches, the work must necessarily be of a varied character. The teacher has to standardise such work by gathering the pupils in formal meetings and allowing them to compare notes. They may criticise and supplement each other, while the teacher will be the final deciding authority.

I should like to offer very briefly a few hints on preserving and mounting leaves or skeletonize them for the school museum. It frequently happens that in the course of a lesson on plant life we have to refer to the colour or some particular feature of leaf with regard to the comparison and contrast in the shape or size. One of the simplest processes

of obtaining a clean skeleton of the leaf is to slowly macerate it in a pan of simmering water (not boiling) to which a little soap is added. After half an hour the leaf may be removed and the soft portions cleaned out gently with a soft brush.

Then press the leaf lest it should warp when it hardens. It is then fit to be mounted on cartridge paper with a thin solution of gum. The process of preserving the seasonal colours of the leaves is equally simple. We have to fill an open tray with clean sand and put it near the oven for a few hours till the sand becomes thoroughly dry. The selected leaves are then spread under the sand without touching each other. The whole is put in a thoroughly dry situation for three or four hours; great care must be taken to exclude moisture from the experiment. When the leaves are dried and their colours have set, they may be mounted in the usual way.

CORRELATION OF NATURE STUDY WITH OTHER SUBJECTS.

Of late years much has been written on the correlation of nature study with the other subjects of the school curriculum, especially drawing: so much so that a special branch of drawing known as "Nature Drawing" has developed as an offshoot. Correlation seems to have an appearance of effort and artificiality about it, from which it can be, however, rescued by the saving grace of the teacher's intelligence. I should not set much store by the elaborate schemes of study shown on the Time Table, but would form my opinion after checking the work of the pupils with reference to fidelity, dates and materials. It would be more profitable to represent in a schematic form the method

of correlation of subjects, such as may be adopted for instance in the third class of our village schools, which, it should be remembered, is still elementary. Suppose a teacher is giving lessons on "Root" which is the subject of nature study for the week the syllabus may be shown in the following form:—

Correlation Time-table for the Week.

LESSON: ROOT.

Aim of Lesson: Function of Roots and their chief modifications.

Nature Study.		Other Subjects.						Results.	
Number of Lessons.	Date & Month.	Drawing.	Geography.	Ver: Reader.	Economics.	Essay Writing.	Agri-culture.	Experi-mental work.	Summary.
Tap and fibrous roots. Examples, Beans, Grass, Palm and Bamboo.	2-4	Specimens of Beans, Grass.	Reference to Vegetable Production of the village and district.	Popular and general acct: indigenous forms.	Uses and Value of roots medicinal, etc. Extracting sweet oils etc. edible forms.	Edible roots and how to grow them.	Soil, transplanting, diseases and Remedial measures.	Study of the radical, its appearance. Direction of growth root-hairs, their functions.	Classification of plants into annuals, biennials and perennials by a study of roots. 2. Differences between roots and under ground-stems.
2. Tuberous roots, examples, Beet, radish, etc.	5-4	Dhalia, Radish carrot, sweet potato.			Banyan as avenue trees for village roads.				
3. Aerial roots. Examples, Indian Corn, Pandanus, Banyan.	8-4	Pandanus, Banyan, sketch from nature.							

Rambles. Collection of different types. Observation on their modes of occurrence and distribution.

The work will of course be of a more advanced character but still will not necessitate the use of the lens or the scalpel. More attention must be paid to the economic aspect of the subject in the village school, while the scientific aspect will be emphasised in the urban schools.

LESSONS.

The village school teachers in consultation with the Inspectors can draw up a profitable scheme of Nature Study Lessons for the whole year for the separate sections. As the local conditions may vary, no two villages unless within very close proximity can use the same table. The following form is adopted in various schools with considerable advantage. I give below a sample scheme borrowed from the 1st Standard.

Months.	Plant Study.	Animal Study.	Agriculture.	Wind and Weather.	Work in the garden.	Preparation of aquarium.
January ...	Seed ...	Cat and his tribe ...	Watching Field operations: Ploughing, hoeing ...	Direction of wind ...	Seed growing. Study of buds.	Frogs and tadpoles.
February ...	Buds ...	Dog and his tribe ...				
March ...	Stems ...	Cow and sheep ...				
July ...	Leaves ...	Goats ...	Weeding, manuring, planting ...	Rain ...		Fish, Water-spiders Water-beetles, &c.
August ...	Flower ...	Horse and ass ...				
September...	One complete Plant, bean...	Rabbit and rat ...	Watering ... Transplanting ...	Direction of wind ...		
October ...	Indian corn...	Bats ...				
November ...	Wheat ...	Eggs ...				
December ...	Rice ...	Fish ...				

I trust it will not be out of place here to indicate the lines on which a nature study lesson, say on "Sheep" may be conducted in the higher standards like the fourth, in our elementary schools.

Aim. STUDY OF THE PRINCIPLE OF CORRELATION OF STRUCTURES.

Materials. Skull of sheep and limb bones, a wall picture depicting the animals of the farm-house, sheep, goats, bulls, cows, horse and probably a stray ass and a pig.

Previous knowledge on the part of pupils:— Knowledge of the difference between goats and sheep. Their habits of life and their importance in the economy of the village. The chief industry connected with sheep, viz., making of cumblies, and cattle farming must be familiar to village children.

First step.—Put up the wall diagram and start the lesson by addressing the class. "Mention the animals you see in the picture." 1st pupil "Sir, I see two goats, two sheep, a bullock, a cow, a horse, and an ass in the corner. I also see a pig with her litter." Teacher, "How are the animals represented?" 2nd pupil, "Sir, the cow is grazing, the sheep and goats are squatting and ruminating. The horse is plucking a mouthful from the hay

stalk. The ass and the pig are silently looking on." Teacher: "In what respect does the cow, for instance, differ from the other animals in the picture?" 3rd pupil "She has horns like the sheep and goats: whereas the horse, the ass and the pig have none." "What difference do you notice between the pig on the one hand and the ass or horse on the other?" 4th pupil "Sir, the pig is smaller and thicker." Teacher: "Any other difference?" 5th pupil, "Sir, the pig's tail is slender and not bushy like that of the horse, nor is it like that of the ass." Teacher: "Point out any other difference that you may notice." After a series of such questions the teacher will elicit that the pig's foot is cloven and that of the horse or the ass is entire. He will next proceed to invite the pupils to classify the animals of the picture on the basis of this difference. 8th pupil "We can classify the animals in the picture under two headings, cloven footed, and the entire hoofed. Cow, bull, sheep, goats and pig are examples of the cloven footed animals, while the horse and the ass are examples of the second group."

The first stage is devoted mainly to recapitulation of old knowledge and preparing the mind of the pupil for the lesson.

Second stage.—By a series of questions the teacher will make it clear to the class that the pig differs from the other members of its order chiefly in the absence of horn, scantiness of hair, snout disc-shaped, presence of tusks and numerous teats, all along the thorax and abdomen. At this stage also the chief differences of the two orders, viz., that of which the horse and the ass are examples and the other to which the sheep and other animals belong should be made clear by a reference to the bones of the skull and limbs. The particular points to which the attention of the pupils should be drawn would be firstly that all these animals stand on the extreme tips of the digits, secondly they have hoofs instead of claws and thirdly they are herbivorous. The differences between the two orders lies in the following facts to which the pupil's attention should be drawn. The first character that the pupils have mentioned is the presence or absence of horn. Next the teacher by using the knowledge of the class will impress the fact that the axis of the legs in the first order of animals passes through the one digit (which is the third and the other digits having disappeared) while in the second order, it passes between the two digits, third and fourth,—while the second and fifth hardly reach the ground. The first digit has disappeared in the cows, etc. This knowledge should be strongly impressed by repeated reference to the limb bones of the sheep.

Third stage.—The students must be asked to refer to the picture again and locate the several joints such as the shoulder, or hip, elbow or knee, wrist or ankle joints with reference to the body. Next draw the attention of the pupils to the character of the teeth in the skull of the sheep and ask the class to compare them with those of the horse

and the pig: the two latter being shown in separate sketches. In the third stage the pupils should be able to state that there is only one set, viz., the lower set of incisors in the sheep and two in the horse and the pig which latter possesses tusks in addition. The teacher should then refer the class to the chewing sheep in the first picture and ask the pupils if they have seen the horse do it. He should comment on how the food is brought back to the mouth to be rubbed down again and sent back to a different chamber of the stomach to be digested. If there is an opportunity the children should be taken out to watch this process in some of the specimens in a herd of cattle. The teacher should explain the arrangement or show the stomach of the sheep and get from pupils examples of the other animals that chew.

Fourth stage.—The class should be allowed to generalise that all horned cloven-footed animals chew the food twice—the habit of ruminating being correlated with the presence of horns and cloven hoofs or in other words horns and cloven foot are closely connected with a complex system of stomach.

In the subsequent lessons references must be made to cattle farming, specimens of wool, manure and so forth.

LIMITATIONS OF NATURE STUDY AND CONCLUSION.

Nature study you will easily recognise, has its own limitations and does not provide a panacea for all our educational evils. However intelligently or carefully the subject may be pursued, it does not provide the requisite food for the intellectual cravings of the child. The gaps left in the mind must be filled by other studies which call into play the higher

faculties of the child. It however occupies a very important place in our system of education and fulfills a definite purpose. All intelligent teachers have to strive their best to understand it in its proper setting and see that the children derive the greatest benefit.

PHONETICS IN THE BOARD HIGH SCHOOL, CHITTOOR—I.

IT was in December 1912 that Mr. Daniel Jones of University College, London, delivered at Madras his lectures, the first of their kind, on Phonetics in its application to English pronunciation. To some of us who were present at the lectures, they served as an eye-opener. We had been, many of us, holding it as an indisputable creed that correct English pronunciation was impossible to any but the Englishman's tongue. But Mr. Daniel Jones dispelled the delusion, and some of us ventured to think that even Indians could pronounce English correctly under adequate phonetic training—a training which Englishmen themselves seemed to require as much as others were the former to learn and teach English pronunciation correctly. This gain in self-confidence was, I thought, a great step forward in the cause of the phonetic reform inaugurated by the University of Madras. Well, after the lectures, fortified by "copious notes" to borrow the annotator's phrase and elated with the certificate of attendance issued by Mr. Daniel Jones under his own sig-

nature, I hied me home in great hopes of ushering into my school a phonetic millennium, for which I had indeed done some spade work already. And what I have done since, I shall attempt to narrate briefly in the sequel.

Soon after the school re-opened after Christmas, I called a meeting of my staff and told them of the immense potentialities of the science of phonetics for good, in the Secondary School, and at their request held a series of evening classes after the day's work was over, in which I indicated in brief the outlines of phonetics, and its application to the art of correct pronunciation. I read with my masters through Mr. Daniel Jones's *Pronunciation of English* and *Phonetic Readings in English*, the former representing the theory of the subject and the latter providing the necessary practice. In these classes, I found that the masters showed great interest in the subject and some were actually delighted to find how, with the new notation provided by the International Phonetic Association's alphabet, any sound, in any language, could be accurately represented to the eye and exactly reproduced by the voice at will. The masters were surprised to find, as they waded through D. Jones's *Readings*, how different was their own pronunciation of some of the commonest English words from the correct style. The neutral vowel *ə* was hailed as quite a find! They found at every turn this

ubiquitous neutral lying in ambush for them behind such innocent-looking words as *for*, *and*, *to*, *that*, *comfortable*, *word*, etc.! Some were surprised to discover for the first time in their lives how unsuspecting they had been of the game of hide-and-seek at which the frolicsome little letter *r* played, in such words as *courteous*, *learned*, *for*, *are*, *were*, *serve* and so forth! It was quite a discovery to some masters—though some were inclined to attribute the credit of the invention to Mr. Daniel Jones—that so many simple looking vowels should represent diphthongal sounds. Seldom does an Indian see *ou* lurking in "old" or "open", an *ei* in *came* or *grave*, or an *ai* in "by," or "try," or that little word "I"; to few had *so* been *sou*, or *no*, *nou*. But when the discovery was found to be no invention either of Mr. Jones or of poor me, the masters gratefully acknowledge the justice of the censure implied in the discovery.

One important fact that came out in these classes of mine was that it was much more difficult to shake off the petrified mispronunciation of the older teachers than the less deeply rooted inaccuracies of the younger ones. Not that the former lacked the will to reform their pronunciation. Poor souls, they devoutly wished to do it, and made honest attempts—sometimes with very ludicrous effect—at imitating the correct sound. But a quarter of a century of faulty pronunciation should be enough explanation, if their

ears failed to grasp the correct phonetic values of English letters, or their tongues collapsed in the effort to reproduce those values. Another discovery that I made in these classes was that what mattered was not so much the theory of phonetics—that may be essential to the phonetician—as constant practice on phonetic transcription under careful guidance, and that, for the practice to be fruitful, the one thing essential above all others was for the learner not to be ashamed to open his mouth. The besetting sin of an Indian boy and, if I may add, of some Indian teachers too is, not that they have lips and tongue and speech organs constructed differently from those of an English boy, but that they are either afraid or ashamed of making a free use of these god-given tools, due in some cases to bad training and in others to false notions of decorum. Of this last, I have become so deeply convinced, that in my elocution classes, I make such mouths while pronouncing words, that my pupils have come round to the opinion that free mouthing of English words is not altogether inconsistent with a sense of decorum, and need not therefore always tickle the risibility of the hearer. And in this free mouthing more than in any one thing else lies, it seems to me, true success in pronunciation, for the Indian boy.

Perhaps it would interest other headmasters to know the salient features of

my *modus operandi* in imparting phonetic instruction to my classes and forms. In the "classes" and the three lower "forms," the pupils are not given any formal instruction in the science of phonetics, nor are they even required to learn the phonetic script. The masters have to learn all this, and acquire the correct pronunciation of the words occurring in their lessons, and thoroughly familiarise themselves with it. Every teacher of the English reading lesson in particular should indicate, in phonetic script in his "Notes" for the day, the correct pronunciation of all the new words that occur in that day's lesson: while all English masters alike are expected not to pass over faults of pronunciation without correction, whatever be the lesson in which such faults occur; for it is obviously impossible to effect any progress in a pupil's pronunciation if the efforts made by the teacher of the English reading lesson are rendered futile by the toleration of incorrect pronunciation in so many other lessons which are communicated in English. While on this point, I wish to emphasise my disapproval of the opinion, unfortunately too common, that pronunciation or composition, it is the business of the language master alone to teach, while the other masters need not pay any attention to the faults committed by the pupils in these respects in the other lessons. That this is an erroneous view to take of the psychology of

composition or pronunciation should be readily obvious to any thinking master; at any rate it seems to be so to the Editor of the *Journal of Education* (London), who says regarding the power of self-expression: "what is not understood is that the power self-expression—whether with tongue or pen—cannot be successfully developed if practice is given only in lessons set apart for that particular purpose; it ought to be a natural part of the learning of every subject. The old rule was that every lesson should be a lesson in English, and we are not yet convinced that it was an unsound one." And what is true of the power of composition is even truer of the faculty of pronunciation.

But to hasten back from this digression to the subject of the present article. In order to ensure that all masters keep themselves well-posted in the pronunciation of their own stock-in-trade, they are requested to maintain a dictionary, in which day after day they are expected to indicate the correct pronunciation of their words in phonetic notation: and what the correct pronunciation is, they discover from the common English dictionary. They write up only a few words a week, but in about a year's time, the dictionary will have well-nigh exhausted the commoner words belonging to any of the subjects of school instruction. My discontent with this dictionary is not that it grows very slowly but that

the masters in many cases do not practise in their own conversation and in class-teaching the pronunciation they indicate in their dictionaries. This defect I must attribute to an utter want of effort on the part of the masters, for I cannot altogether approve of the excuse, that old men or old fashioned men cannot change their pronunciation any more than that an Ethiopian can change his skin.

What is the remedy? More interest must be roused all round in this branch of English teaching. Two things could be done to this end. One is to provide a compulsory test in English pronunciation for teachers' certificates of all grades, the collegiate included. No teacher should be provided with a certificate unless he has shown an elementary knowledge of phonetic theory and can indicate readily the correct pronunciation of the commoner words in the alphabet of the International Phonetic Society. Another thing that might be done, by way of a beginning, is to introduce English phonetics, (coupled if necessary with advanced English) as one of the C-Group options of the S. S. L. Certificate examination. It is easy to decry this suggestion as an appeal to the examination-idol, whose worship it is now the fashion to denounce. But after all, no one has as yet discovered a more efficient substitute for the much maligned external examination; no, not even the organisers of the S. S. L. C. Scheme. I know that English Phonetics

will not be a very popular subject, like Typewriting or the History of England, but doubtless the fascination of correct pronunciation will attract some boys and some few masters also, provided the headmaster is not an "old fashioned gentleman," and the Inspector has progressive ideas. When phonetics has been tried as an "optional" for some time, we shall bring into existence a race of correct speakers, from whom the Training Institutions should draw their recruits for the Secondary Certificate. With a preliminary grounding in the High School, supplemented by definite training in phonetics while at the Training School or College, the Secondary teacher ought to make a very successful instructor of English pronunciation in the lower classes and forms of our schools, where it is that the mischief is at present done, which, years of toil thereafter hardly suffice to cure. Bend the twig, if you wish to bend the tree.

In a preceding paragraph I made mention of the phonetic dictionaries which my masters are compiling. Why these, one may ask, when Messrs. Michaelis and Jones have brought out an excellent Phonetic Dictionary? I have seen the book, and without doubt it is very well edited. It will be of very great use in countries where English is spoken as the mother-tongue, or where English is spoken correctly and the danger to avoid is the unconscious sliding from the phonetic

pronunciation to the "Spelling-pronunciation," as is very often the case in the Elementary Schools of England. But out here in India, we have already acquired a spelling-pronunciation, and our problem therefore is how to effect a transition from this to the phonetic style. We know the spelling of words for certain, and we shall therefore want a dictionary in which the first column is a list of words arranged, as in a common dictionary, in the alphabetical order, and the second column shows how each of these words is phonetically pronounced. In other words, the dictionary that will be more serviceable, at any rate for many long years to come, in our country is one that is compiled on lines the very reverse of those adopted in the Michaelis-Jones production. Still no Indian master can afford to get on, without his shelf counting this book among its contents. A dictionary of the kind now proposed by me can be edited even in this country, provided some enterprising firm of printers furnished themselves with the necessary stock of phonetic type. Indeed, Mr. Editor, I would suggest that the Press at which this Journal is printed provide itself with such type, so that, apart from the production of the dictionary, you might month after month, give your readers a column or two of phonetic reading, which will certainly constitute one efficient mode of pushing forward the cause of phonetic reform.

On one interesting and eminently successful teaching appliance that I employ, I would say a few words before closing. It is the gramophone discs which record all the anecdotes in Mr. D. Jones's *Phonetic Readings*, and an interesting extract from *Dodo*. I consider these records the most perfect instrument in the hands of the Indian teacher, if only he would use them wisely and abundantly. There are shades of sound which cannot be represented by the most cunningly-devised phonetic notation, and which can only be indicated by the living voice; and these get imprisoned in the mysterious black discs upon which the smiling little angel keeps perpetually writing what no mortal eyes may ever see. But there is the voice of Mr. Daniel Jones locked up with all its inflections, pauses, stress, and other niceties of technique, but ever available for the instruction and delectation of any one who would try the lock with nothing more intricate than a simple little needle. How I use these records is first to hear them myself on my own machine. I hear each lesson several times, once for the pronunciation of words of more than ordinary difficulty, once again for the stresses, once more for the pauses, once more still for the intonation. Then I read the lesson out to myself, and if I still have doubt regarding any phonetic point, I set the disc revolving again and again till I master the particular difficulty. In this way I treat

the entire lesson. This preparation, I consider, is very essential to the teacher. Then I assemble my pupils and masters and make them hear the same lesson from the gramophone, not once only but several times, as I point out the niceties of pronunciation which they must master. The boys look upon this lesson as a "treat," and even the "old fashioned" masters relax their rigid facial muscles to express pleasure in a subject usually rather the reverse of pleasurable to them. After the gramophone model, I make a few pupils read in imitation of the model. Faults are criticised by other pupils or by me or, as often happens, by the gramophone, which is set in motion again. And the net result of this treatment is remarkable success, as any one who will take the trouble can easily verify for himself in the very first lesson. I would strongly impress upon all headmasters the great desirability of providing their schools with a good gramophone and these records. I know School Managers are rather hard to convince in matters which necessitate additional expenditure, but I can assure them that any money spent on this very useful teaching appliance is not an expenditure, but an investment, if the management wishes to impart a truly sound education as near the ideal as possible. For the information of those who may be willing to provide themselves with these records, I may mention that, on my initiative, Messrs.

Spencer & Co. of Madras have imported them and sell them—eight in all—at Rs. 3 each. Almost any high grade gramophone machine will do, but I prefer an English-made one, with the wooden horn. The records could be ordered through any local sub-agent of the Madras Firm, with not a pie to be paid in excess of the Madras price.

In another article, should the present happen to rouse any interest in your readers, I propose to discuss briefly the syllabus in phonetics which I am following in my own school.

C. T. PARTHASARATHI MUDALIYAR.

AN INAUGURAL ADDRESS*

Mr. President, Gentlemen, and Brother-Teachers:—

I thank you for the honour you have been pleased to show me this morning, and little as I deserve it, I had a good reason to accept it. When a few days ago, your Secretary wrote to me asking me to address you to-day, my first thought was to decline it for my incompetency to rise to the occasion. But my next thought was that perhaps my friend had been casting about for a fit person to address you to-day, and meeting with civil and kind refusals wherever he applied, he has been reduced

* The inaugural Address delivered on the Anniversary of the Secondary Teachers' Association, Mayavaram, by V. Mahadevan,

to climb down, and ask me to help him at the last resort. A poor Secretary myself, I thought of all his difficulties in a flash, of the very many repulses he might have met with even from persons of my degree and forthwith resolved to go to his rescue even though at a venture; and so you find me here about to play my part.

I have not had time enough to prepare an address that will be worthy of the occasion to-day, and at the outset I must ask your pardon if you find my address lacking in coherence, proportion and solid substance. I propose to deal with teachers, what they are, and what they ought to be, their difficulties and hardships, and the need for associations. Here and there I have allowed myself to be led away even to tiresome and offending lengths, and if so, I must ask you to bear with me.

It is indeed a matter of common-place experience that our Associations are, as a rule, very short-lived, and if they live, drag on a life that is not much better than death itself. They seem suddenly to start into life when some great potentate arrives on the scene, and when his mighty back is turned upon the association, the great bonfire is out, and the whole thing becomes a thing of the past. This might not be the curse particularly on Teachers' Associations; there may be many another sort of association that thus suddenly blazes into extinction. It is no easy affair to keep a society going, and the Secretary has often cause to feel that his office is more a matter of jibe

than one of distinction. That such deaths and diseases are common, does not make ours less bitter but the more; and it presents matter for profitable speculation to investigate into the causes that bring about such speedy disintegration of our societies. I here don't profess to discuss and solve this sociological problem, but merely lay it before you to ponder upon and solve as you best might.

It is often urged against our societies that they have no definite programme to keep them busy at work, that the common objects commonly set forth, such as the elevation of the status of the teachers, the creation of *esprit de corps* amongst them, are merely stale and high-sounding phrases, and signify little or nothing particularly; that these, being too vague and general, cannot long hold a society together. It is again flung in our teeth that we are mostly mediocrities, and that it is by mere chance that first-rate and second-rate men stray into our flock, that no society can long thrive composed mostly of such weak parts. We have almost become a name for a contented class, doggedly contented with meagre recompense and scanty respect accorded to us. Generations of cold contempt have made us inured to our fates; and we draw upon stoic philosophy for the deficiencies of worldly fortune. The teacher has almost come to be known by his face which bears unmistakable expression of docility and meekness too good for even the smallest mischief. Going to or coming from the school, walking listlessly and languidly along, he wears the

stamp of his profession—a mark of fatigue with the more or less apparent consciousness of his own sense of inferiority.

This is certainly a dark and gruesome picture of things, but I draw it not to damp what spirit there may be in us, but merely to show you how the land lies. What though we are mediocrities? That is itself reason enough that we should draw closer together and present a united strength.

Before all things else, it is desirable we should bear in mind that our work in the class room is the least part of our duty, that beyond it and outside it there yet lies far more to do. This is a common-place observation, I know; but we in practice lose sight of it, and that accounts for the very narrow and dwarfed conception of commonly accepted duties.

We are aware of the mighty responsibility resting upon us, and feel flattered to be told that the destinies of the rising generation are in our hands: that we hold in trust, as it were, the future history of our country. It largely depends upon us, we love to hear, how far our youths shall prove useful members of their society, and good and noble citizens of their country. We must acknowledge all this compliment paid to us not without a sneaking consciousness that we are not in reality doing much by way of shaping their character and planting in their minds lofty and wholesome impulses. Our work is practically limited to the mechanical instruction in the class mainly calculated to

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enable the boys to score high marks in the examination. We might vainly press into service some few contexts here and there, and point a moral, find occasion in the course of teaching English or History to launch upon a political or moral discourse; but how hollow must our words sound even to our ears, when, ourselves not stirring a finger, and knowing no society but our individual own, we rhapsodise upon social service and good citizenship? We fancy a nasty whisper muttering in our ears, and then it costs us an effort "to quench the blushes of ingenuous shame." It is appalling to think what example shall we be setting to our boys, who, however dull-witted otherwise, are unfortunately too shrewd not to penetrate into the man behind the words.

It is indeed strange that we teachers, who have largely to deal in words, teaching, preaching or lecturing, should yet shy at the public platform and shun public life. Is it that the teacher is a morbidly sensitive creature that shrinks from any kind of publicity? Or speaking as he does all through the day, (that being his trade in a sense he is quite sick of it? Or godding it over amongst the lads of the school), does he guard his name and honour so jealously? However it be, for shame let us shake off our shrinking diffidence and modest reserve; let us boldly hold up our heads and bestir ourselves, and lead a busier and more useful life than can at present be set to our credit. Or else, we must plead guilty to serious dereliction of duty as true educa-

tors of our boys who are really influenced more by what we are and how we act, than by what we say.

Before we can live up to our ideal, we must first set our school in order, and see that it is rid of difficulties and adverse conditions that hinder and thwart us. The world outside knows nothing of the nature of the work we do in school. They have no conception of the fatigue of teaching, and the life-killing drudgery of our work. Let any one of them teach his own boy but for half-an-hour, value a small bundle of answer-papers, and correct one small packet of composition exercises; then will he be able to apprehend vaguely the labour and worry of the poor school-master. It is not the high nature of the work or its difficulty that taxes us so much as the prolonged drudgery of it. Correct a number of composition exercises, you are done up for half the day at least; teach the class one hour, there is a marked fall in your animal spirits and you emerge out of the class a spent man like a pale ghost. And yet teachers are constrained to work even for three hours consecutively, and for four or five hours a day—and there may arise extra work into the bargain—a piece of cruelty which, however sanctioned by custom, is yet utterly indefensible in these days of prevention of cruelty to animals. Our hearts curse though our tongues have to be mute. "But what a number of holidays have you got?" snaps our critic. Yes, we have, but holidays are no holidays for us; they lose the very essence

of pleasure bringing with them, as they do, an appalling pile of answer papers. The very thought of having to wade through the vast mire of illegible manuscript sends a shudder and is enough to sour our happiest moments. And yet the worst irony of the whole thing is they talk of the blessedness of the teacher's life and its quiet repose. Bullied and pestered by boys on one side and domineered over by authorities on the other, ever haunted by the thought of arrears of valuation, poor man! the teacher has lost the very capacity for enjoying a holiday. So worked as he is, what wonder is it that he goes home more dead-alive than alive, nothing inclined for a game of tennis or even badminton. An evening constitutional is the most he can think of. Is this the man to take part in public life with any zeal or zest?

Matters were bad enough, but the S. S. L. C. Scheme has made them still worse. The scheme, good and acceptable on the whole, hastily conceived and sent into the world before its parts were fully matured, has in the fair name of specialisation and liberty gone to intensify the strain considerably. It has now become a fashion to extol the scheme in its entirety and take credit for marching with the times. There is however one serious aspect of it, which is a matter for grave anxiety. The scheme presses over-heavily on the tender boys much to the detriment of their health and good spirits; our boys' minds are packed with knowledge which is not only too much but too high for boys of their age and

stage of mental growth. This is a subject which demands our very serious consideration, and we shall be gross sinners to our boys if we do not seek to relieve the heavy pressure upon them, and afford them leisure for sport and amusement to which they in their age have a natural right. Should not our boys be boys and be happy when they may?

Now to the teachers themselves, will it be deemed extravagant if they ask for more leisure hours and some remission of school work? If the teacher goes to the class in high spirits and takes to his work warmly his teaching is bright, vivid, and impressive; if again he goes to the class jaded, cursing the school timetable, his teaching must perforce be dull and inflicting. The difference is as wide as between the first hour and the last, between freshness and fatigue, between pleasure and infliction. It is therefore doubtful economy (I will even say positively bad economy) to over-work the teacher; and our boys had rather not be taught at all than be taught so perfunctorily by a reluctant teacher always listening for the hour bell.

The school must afford all facilities for the improvement of the teachers' minds, and give free scope for their indulging in the studies for which they have tastes and aptitudes. Our school libraries are at present a mere collection of boys' books, mostly of fiction, a good many of these books have been presented to the school by some benevolent patrons who, having perused them once, did not

find them worthy to keep; or having bought better and more modern books, and wanting to have a clearance of old stock, made a glorious virtue of necessity by presenting them to the school. Some are specimen copies of books not worth much as private goods. No book is in truth, too bad for the school. Really good and costly books are too good for the school and are scored out for the headmaster's list. The teachers had better buy them for themselves if they choose. But it is a luxury the poor paid school-master can ill afford. Books relating to the science and methods of education must be largely purchased for the school library. All important periodicals, Indian and foreign, must be subscribed for by the school. Teachers at no time can have read enough; and they of all men must be assiduously reading up so that they may not lag behind the times, and become what they call 'almanacs out of date.' If the teacher has a wide range of study, his teaching is bound to be masterly, clear and effective, and he becomes a man of great resource bringing to bear upon his subject plenty of illustrations from various sources.

In the periodical meetings of our associations, our teachers should then be able to lecture on their favourite subjects of study and make their colleagues share their knowledge. The teachers' duty is not limited again merely to the increasing of his knowledge but should extend besides to educational politics. He must acquaint himself with the conduct and

progress of education in foreign countries such as Japan, Germany and America, and should apply his knowledge to the state of things here; and such a comparative study cannot but suggest to him various ways of improving our state of education. It is certainly not very creditable to high school teachers that they should be made to submit passively to scheme and systems in the framing of which they were either not consulted, or not thought fit to be consulted, or if consulted, they had no opinion to give.

But where is the time for the teacher to indulge in the luxury of studying things beyond the immediate pale of his work? Is not his energy almost sapped away by his daily school-work? Should not the teachers, seeing what prospect and promise of usefulness they hold out be given more leisure and greater facilities for study? The headmasters have surely all sympathy for their assistants; they were assistants for a very long time themselves, and have suffered all that the assistants now suffer. They cannot certainly be actuated by the spirit of the old mother-in-law who would vengefully make her daughter-in-law suffer all that she herself once suffered and with interest thereon. Such a spirit is assuredly incompatible with the magnanimity that we should attach to the headmaster's office and dignity. Still what can he do himself? He is helpless in the matter. His position sometimes is very unenviable. Bullied by his assistants below, and brow-beaten by the management above he finds himself

in a very sorry predicament. The headmaster is one of us, working with us, and amidst us, and has cast in his lot with us. It is uncharitable to think that his sympathies are estranged from us. If really so, the school would indeed be too hot for both parties, a regular hell.

Our greatest difficulty lies with the management. It is certainly no blessing, as things go, that our schools are to be managed by persons who however well-intentioned themselves, cannot pretend to educational experience. It is again very unfortunate that in the relations between the management of the school much the same policy and procedure is adopted as between the employers and the employed. The master who owns vast properties may with some propriety give what treatment he chooses to his personal servants, can set them up, drive them out as his humour may dictate. But where the manager holds public property in trust, and is therefore himself answerable to the general public (the teachers including) for the proper management of it, there cannot be the same warrant for the dictatorial attitude. The management is commonly composed of very respectable gentlemen who by reason of their affluence or influence happen to get elected or appointed on the committee. Seldom or almost never are they educationists, and except for the fact that they themselves must have passed through a school in their distant youth they can have no experience or knowledge of things educational. The information pertaining to their own

school does not all come through the headmaster but comes through *media* which are best left untold. They will not grant that in matters of school administration and organisation the headmaster of many years' educational experience, the man on the spot, knows much more than and much better than they. School efficiency and manager's economy are not to be easily reconciled. Efficiency demands smaller classes, more teachers, bigger library, a better equipped laboratory, greater accommodation, and a host of other requisites. The management view all these things with distrust and imagine these are merely plausible means to trick them out of their money. They have a dim recollection of things having gone on pretty well with vastly larger classes, for fewer teachers and hardly a quarter of these appurtenances. 'Are the products of your modern education now any better or wiser than we? Ask them curtly,—a very delicate and no very easy question to answer. They therefore know much better than to sanction the headmaster's estimate. Economy is what they go by—economy as they understand it, which at best means a begrudged grant of a very niggardly fraction of the money asked for. They accordingly do not want men of good parts: enough if they get for their school moderate men content with moderate pay who would serve meekly and submissively.

The Committee are never to blame. They cannot in the human course of things be expected to have a much sound-

er or deeper knowledge of things. They are mostly persons engaged in other professions of life and devoting the best part of their time and energies to earning a competent income. They cannot have spare time, even if they have the inclination, to attend to the particulars of secondary education and acquire as intimate a knowledge of it as we schoolmasters are bound to. The fault therefore is none of theirs; ours the fault that we do not press our school matters to their kind notice in such a clear and convincing manner as will oblige them to accede to our request. It is we who are slack in our business. The headmaster cannot singly and by himself educate the management. He is sometimes suspected of creating difficulties, and inducing discontent where there is none. The Teachers' Association is the proper place where many school matters may be discussed and resolved upon, and the headmaster then with greater assurance plead for the school cause, backed up by the views of no less than the whole association of the school. If things would still go perverse, the school then will bide its time. But the probability is that the conjoint views of a strong body of teachers may not be so lightly and so safely rejected.

In this connection it strikes me to suggest to you the feasibility and desirability of organising in every institution a school council composed of the headmaster, the presiding man, the 1st assistant, and some few more assistants, say two or three (any handy number), where

may be discussed many important matters of internal management. It will be something like a small consultative body. As a matter of fact the headmasters do consult their assistants in important particulars; but then it is surely an act of grace and condescension. Such a council as this will prove a great blessing. In the first place it will take away from the headmaster's proceedings, all colour of high-handedness or autocracy, and will give them the weight and gravity of the council which passed them. In the second place, it serves to give the assistants a gentle elation of power, combined with a sense of serious responsibility; and the school work will then be done not only smoothly but also very warmly and zealously. The institution of a council will thus steady the policy and work of the school, and the good name of the school will not then totally depend on, and vary with the personal capacity of a single headmaster. I here merely suggest the desirability of forming such councils as a slight safeguard against the possible tyranny of the headmaster, the odium and the unpopularity that he is liable to incur. The details of the formation of the council, its powers, its cognisance, may be elaborated as the conditions of each school may direct.

Each of us can do nothing singly with his feeble voice and has no claim to be heard. But all of us together, seriously and honestly bent upon the improvement of the state of education entrusted to our hands, can have a claim to be heard,

There is indeed quite a lot of common grievances which must knit us all into closer brotherhood and a number of educational questions which it is not only our interest but our duty to discuss fully.

There is the old question of low salaries, and though now they have been raised somewhat, have yet to be raised far higher. The question of the schoolmaster's status in society largely depends on his scale of salary and in these days of dearness of food and general rise of prices and high living the present rise in the scale of salaries cannot be judged to be adequate. He is shamefully distanced by his brothers in other departments of life just as old as he in service. The teacher's prospects besides are sadly limited, and thus in every way the poor school-master continues to be still the object of the world's compassion. Closely connected with this is the questions of the Provident Fund Scheme and many schools have not yet arrived at any definite plan.

We should be grossly guilty of selfishness if we stopped with the question of raising our own status and prospects. Subjects of general educational importance demand as serious attention at our hands. The increased cost of secondary education at the present day has given a grave set back to the progress of education; and it behoves us to endeavour to counteract the evil tendency in what measure we may. We should do what we may to open scholarships and poor boys' funds to enable the deserving poor to participate in the benefits of education in school, the doors of which are now

remorselessly shut against them. There is again the vexed question of the improvement of the vernaculars and assuredly every school may, if it takes only serious thought, do a good deal towards improving them, without awaiting the solution of the question from higher quarters.

Can it be now said that our societies suffer from want of work? Is it not unconscionable that while those educational questions are being warmly discussed by others, we ourselves sit with folded hands having no opinion to give ourselves and merely looking up for orders or instructions. There is a strange notion amongst us that having done our routine work in school, our legitimate work ends there, that it is mischievous even treasonous to consider important questions of a general character, that it is left solely to others to shape and guide the educational policy, ours being but to do and die. An unmanly sort of optimism has laid hold on us that fates will order everything for us best, that we have only to do each his little duty, and that by force of our passive virtue, we can fetch down the gods from above to grant us boons! What a fatal inertia! We must be something more than mere passive instruments. Feeble individually, collectively in associations we might gather strength and courage and oppose an united front and so command respect and esteem. There is such a thing as eye catching fire from eye, and voice lending courage to voice, and even our sadness loses more than half its weight

in the strong sympathy of numbers. And even were there no other benefits, there is yet the joy of the meeting, the warm shake of the hand, and the heart leaping out to heart in instinctive sympathy. A meeting for meeting's sake is an end in itself worthy of some sacrifice at our hands. Let us therefore band together in good numbers, work nobly for the noble cause of education, and deserve the honour which is justly ours. Before our united zeal and enthusiasm all difficulties and obstacles are bound to vanish.

A STANDARD FOR THE KING'S ENGLISH.

BY PROFESSOR WALTER RIPPMMANN, M.A.,
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WHAT is good English speech? What form of English speech ought we to impart in our schools? What should be our attitude to dialect speech?

These questions are forcing themselves on our attention. The interest in the spoken language is becoming very keen; of this we have indications on every side. Dr. Bridges, the Poet Laureate, has recently issued a Tract on the Present State of English Pronunciation, and under his auspices a Society for pure English has been founded. Mr. Bernard Shaw shows his wonted alertness by presenting a Professor of Phonetics in his "Pygmalion." We have a Poetry Society that lays stress on the reading aloud of verse. The Committee on English appointed by the National Education of

America, in its recently published report, states that "all expression in speech demands distinct and natural articulation, correct pronunciation, the exercise of a sense for correct and idiomatic speech and the use of an agreeable and well-managed voice."

There can be no denying the tendency to uniformity, to a standard, in educated speech. We notice it in the speech of the actor, unless he be taking a dialect part; we expect him to pronounce words in a certain way, and he knows (or ought to know) that any peculiarities in his speech interfere with our enjoyment. The orator and lecturer sometimes show greater divergence, but hardly ever does their speech contain very marked dialect features. Even in Scotland and in the United States the experienced public speaker will be found to adopt, intentionally or unconsciously, a more or less close approximation to the English standard.

Professor Wyld, in the December number of "Modern Language Teaching," has shown very clearly how the Received Standard, as he calls it, has developed. He rightly sees an important factor in the tendency to uniformity in our great boarding schools, which exercise a leveling influence in this and in other respects. The tendency is supported by intercourse among the educated, who rightly desire to avoid the pronunciations and phraseology peculiar to one district only and

hence troublesome to those outside it. They obey the sound principle that speech best fulfils its function of communicating thought when there is nothing in the manner of speaking that distracts attention from the thoughts to be conveyed.

Among speakers of the Received Standard the points of divergence are nowadays relatively few. Some differentiate *w* and *wh*, others do not; and the *a* of answer, after, pass, etc., shows variations. More important is the treatment of *r* between vowel and consonant (as in "arm") and finally (as in "far"). There are differences in the pronunciations of the vowels in unstressed syllables (e.g. in the endings—age,—ate,—ness). There is some uncertainty as to the accentuation of long words derived from Latin (e.g., laboratory, obligatory).

The other extreme is dialect, which remains fairly pure in rural areas, but elsewhere is subject, more or less, to the Influence of the Received Standard. This is especially the case in large towns, where the different social classes show varying degrees of approach to the standard.

It is obvious that such modification by the standard constitutes a grave danger to the dialects. Their vitality is further diminished by the present spelling which affords no adequate means of recording the spoken dialect, because many of our letters no longer have stable values. In

German, which has a more phonetic spelling, there is an extensive dialect literature. Lastly, dialect suffers from being ignored or condemned in our schools.

Before showing how the decay of Dialect may be checked it will be well to point out that the tendency to a Standard Speech among the educated is growing. There was far less uniformity one hundred years ago. Those familiar with the controversies that raged at the end of the 18th century and the beginning of the 19th (admirably dealt with in Professor Lounsbury's book on "The Standard of Pronunciation in English") are aware that many variations have since disappeared. To give a few examples: the actors said "ferce, perce," while in polite society "fierce, pierce" was the recognized pronunciation. Sheridan, who wrote one of the earliest pronouncing dictionaries, approved the pronunciation *sassidge*. (Pepys wrote in his diary: "Thence to the Greyhound in Fleet Street and there drank some raspberry sack and eat some sasages and so home very merry.") Walker who was Sheridan's most important successor, condemned *sassidge* as a "vulgar" pronunciation. It was Walker who said of the word *cucumber* that it "seems too firmly fixed in the sound of cowcumber to be altered;" and of asparagus "The corruption of the word into sparrowgrass is so general that asparagus has an

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air of stiffness and pedantry." Smart, revising Walker 30 years later, approves only cucumber and asparagus. Kenrick, in 1773, refers to "*boil* and *join* and many others, which it would now appear affected to pronounce otherwise than *bile* and *jine*." Pope had made *join* rhyme with *mine* and *divine*. Before long this variant yielded to the other pronunciation. For a long time people were divided as to the pronunciation of *gymnastic* and similar words; some gave the *g* its present value, others pronounced it as in *get*. In the accentuation there was also great variety; for a time, "blasphemous," "character," "contrary" were stressed by some on the second syllable, by others on the first. The poet Rogers, early in the 19th century, says: "The now fashionable pronunciation of several words is to me at least offensive. Contemplate is bad enough, but balcony makes me sick." The prolonged discussions about the accentuation of the word "decorous" makes most amusing reading.

Now this growing tendency to uniformity is a feature of Standard Speech which distinguishes it from Dialect. In dialects change takes place unconsciously; in some more quickly than in others. The cockney speech in the novels of Dickens is very different from that heard now. Standard Speech is, more or less, consciously and successfully, taught in our schools; it is preserved by strong social influences. Its rate of change, its conse-

quently slow, and would be still further reduced, if we had a rational spelling that adequately represented the sounds, and if our teachers received a better phonetic training, which would enable them to check deviations from the standard which now passed unnoticed.

There is no reason to assume that the movement towards uniformity will be checked; everything points the other way. Nor is it desirable; for a Standard Speech is essential.

It is wanted for public speaking, for reasons that have been given. Of course, this does not exclude dialect poetry, drama, etc.

It is wanted for social intercourse. Many have been handicapped in their career through faulty speech.

It is wanted for teaching. Good literature makes its greatest appeal when it is well read aloud; indeed reading aloud affords a test, not only of the reader's apprehension of the meaning and beauty of a passage, but of the writer's style. It is the teacher's duty to read aloud well and to secure good reading from his pupils. But we must render this possible for the teacher by making it clear what constitutes "good English speech," and by helping him to understand the difficulties of his pupils. I believe that, before long, every education authority will arrange for what I may call a linguistic survey of its district. The results would be embodied in a little handbook giving the

main feature of the local pronunciation and vocabulary. This would be an invaluable aid to the teacher, and would stimulate his interest in local speech. Occasionally the pupils would be called upon to repeat a story in dialect after telling it in standard speech. Dialect verse and prose would be collected and some time would be found for it in the English literature lesson.

The teaching of English is not confined to these islands. In Australia, in Canada, in South Africa, increasing attention is being paid to spoken English, and that inevitably leads to the question: What form of English shall we teach? In the United States the problem is also arousing widespread interest, and there too "correct speech" requires to be defined. The English language is rapidly gaining in popularity among foreigners of every nationality; and again we are faced with the question: What is the best pronunciation of English?

We need a generally accepted standard of speech also in order that we may have a rational spelling, and a rational spelling, in order that we may record and preserve the Standard Speech. This has been excellently stated by Professor Lounsbury, in the concluding pages of his book on "The Standard of Pronunciation in English," from which the following passage is taken:—

"There can never exist that infallible guide for whose appearance we are all

longing until the spelling of every English word carries with it its own pronunciation. Even then the variation of accent must continue to show itself, though it will be reduced to the lowest possible limits.....Long and tough is the road that must be travelled before any such result could be reached in a language like ours which enjoys and rejoices in the distinction of being the most barbarously spelled of any cultivated tongue in Christendom. We are weltering in an orthographic chaos in which a multitude of signs are represented by the same sound and a multitude of sounds by the same sign. Our race as a race has, in consequence, lost the phonetic sense. What can we hope for the orthoëpy of a tongue in which, for illustration, the short sound of *e* found in *let*, represented by *ea* in *head*, by *ay* in *says*, by *ai* in *said*, by *ei* in *heifer* and by *a* in *many* (also by *eo* in *leopard*, by *ie* in *friend*, and by *u* in *burn*)? Or of the long sound given by us to the same letter *e* in *mete*, represented by *ea* in *meat*, or by *ee* in *meet*; and, furthermore, by *i* in *magazine*, by *ie* in *believe*, by *ei* in *receive*, by *eo* in *people*, and by *ae* in *aegis* (also by *ey* in *key*, and *ay* in *quay*)? Or take the sound denoted by the digraph *sh*, seen in *shift*. It is represented by *ce* in *ocean*, by *ci* in *suspicion*, by *si* in *dimension*, by *ti* in *nation*, by *xi* in *anxious*, by *sci* in *conscience*, by *ch* in *machine*, and by *s* in *sure* (also by *ss* in *passion*).

The conditions are unfavourable on the side of the language itself; they are full as unfavourable on that of the users of the language. Most of us love our present orthography—love it for its uncouthness, its barbarousness, its unfitness to do the very work for which orthography is presumed to exist at all. We cling with passionate devotion to its worst anomalies. We not merely shudder at the prospect of changing a spelling which defies all attempts at proper pronunciation (*e.g. victuals, yacht, buoy*), but at the suggestion of changing one that in addition disguises completely the derivation (*e.g. rhyme, scent, sprightly*), about which in other instances we profess to be profoundly solicitous. Even the pettiest alterations in the interest of a meremechanical uniformity (*e.g. diagram, programme; humour, humorous*) meet with the sturdiest resistance. On this whole subject, indeed, there is no ignorance so profound and comprehensive as that which envelops the minds of many men of letters, if we can judge of their degree of knowledge by the character of their utterances. It requires a far more enlightened opinion than prevails yet among the large majority of these before we can look for the success of any effort to cause our tongue to approach even remotely to the phonetic excellence of Italian or Spanish or German. Yet, until the time comes, no small share of our lives will be spent in

the profitable and exciting occupation of consulting dictionaries, in the equally profitable and exciting discussion of particular words, and in airing our opinions and delivering our decisions upon points about which one thoroughly educated man is as good an authority as another and nobody is an authority at all."

These words were penned ten years ago; if Professor Lounsbury were writing now, he would adopt a more hopeful strain, realising that even the man in the street is becoming alive to the importance of good speech. The time has come for us to establish a Standard of English Speech, and put an end to the uncertainty and the misconceptions with which most of us are afflicted. It has become customary for the speaker of English who prides himself on his pronunciation to designate any deviation from his personal standard as "cockney." This is really too simple a way of getting over the difficulty.

The standard that we require will, in the main, be based on the best present usage, which needs to be determined more carefully than has so far been the case. It should be as pleasing aesthetically as we can make it. That implies not only that it shall be distinct (which does not mean that we should give up such manifest simplifications as are found in *handkerchief, castle, knee, condemn*), but that it shall be harmonious. The

production of the voice, the basis of articulation, must alike be considered. Many dialects are disqualified from ranking as Standard Speech not so much on account of individual sounds, as because the manner of producing the voice is faulty. The Standard will be, let us hope, a finer instrument for social intercourse and for literary purposes than any existing form of speech.

How is this ideal to be attained? We have no Academy comparable to the French Academy—and that has never done anything for the pronunciation. We have a Royal Society of Literature, which shows the same unwillingness to face this problem. We must turn to the Board of Education.

Well may we do so; for it is a matter of supreme interest for the teacher. Bad speech in our schools brings with it many disadvantages. The Board of Education has issued directions for the pronunciation of Latin. (The matter was discussed at the last Headmasters' Conference, which gave rise to a correspondence in the Press; and many of the letters showed that phonetics is still the subject on which people are ready to rush into print without possessing the most elementary knowledge.) The Board of Education has done much to encourage the use of phonetics in the teaching of French and German. Surely the time has come when we may urge it to take up the pronunciation of English,

Therefore we urge the Board of Education to summon a Conference on Standard Speech, representative of the English-speaking world; a Conference not only Imperial, but Anglo-American. What could more fitly celebrate the Hundred Years of Peace than such united endeavour to establish good English speech on a firm foundation?

THE TEACHING OF TYPEWRITING IN SECONDARY SCHOOLS.

HAVING dealt with 'Shorthand' in a previous issue, something may now be said about 'Typewriting.' It was said then a few lines would be written if time and space permitted. It may not suffice to rest content with the method of training imparted in the various technical institutions. There the students have perhaps attained the age of discretion and some have even entered service. The conditions vary here and the majority of pupils are quite young. The need is therefore felt for a system of teaching which will at the same time be very simple and efficient. What is wanted is an intelligent study and not the monotony of routine. 'Bend the twig and you bend the tree'; the impressions should therefore be clearer, finer and simpler. *Method in teaching* has much to do with shaping the young minds. The aim should always be to create an incentive for further study.

The equipment of the class engages our first attention. The room should be spacious and well-ventilated; and, where evening classes are held, it should also be well-lighted. There should be no pressure of accommodation. Government grants are not wanting

and the aim of the School authorities should be to keep different types of machines, so that students may have their choice. There should be a separate desk for each machine and its accessories. The best plan for the desks and other furniture should be given, and they should be made of the best material to stand wear and tear. The stools for students should be of the proper height and no difficulty should be felt while typing.

Which is the method to be adopted—'Touch' or 'Sight'? The former is now gaining ground. The latter has not fallen into disuse at any rate. From a comparative standpoint, however, one seems to have more advantages than the other. We hear of Champion tests being held and find the speed record running up to a hundred or more. It may be said that the brilliant records in speed are chiefly on account of 'Touch'. One types nearly as fast as taking notes. There is no more that wide gulf between the two. There is no more that far-cry between them. The fact is that in this method there is no strain on the eyes unlike the other; one has not to be looking at the keyboard while typing. It is the brain that is watchful, and decides the position of fingers on the proper key. The eye is always on the running matter and the chance is therefore very much less than in 'Sight' of missing any of the lines. The touch is also more likely to be even after a good practice. Use is made of the four fingers which chiefly accounts for speed; it is not uncommon to use even two in the 'Sight' method. Mistakes in spelling are rare though pressing the wrong keys is usual at the beginning. These facts should be made clear so that pupils may choose the best method. The other method is not to be decried so that, if some like it, they may

follow; for considering the extra difficulty involved some would like to fall into 'Sight'. The only disadvantage in 'Touch' is that it cannot be readily used where there is a slight difference in the arrangement of keys in another machine.

It has been pointed out that there should be different types of machines. Students may be allowed to have their choice governed by the conditions and circumstances of each particular case. Those, who follow the 'Touch' method, will do well to use machines like Remington No. 10, Underwood, &c. As for the others any typewriter can be made use of. But it need be said that the touch in some patterns is a little hard. Again there are visible and invisible models and the general desire is always to practice on the former. The latter cannot on that account be excluded and the teacher should see that the batches are fairly divided over all the machines.

A few introductory lessons should be given before the students can handle the machines. The subject should be made interesting so that they may not feel diffident and give it up after some time. It should be remembered that they are quite young and the teacher should aim at keeping them attentive. The history of the typewriter may be told them in a narrative form interspersed with fun and humour and an idea of the record speeds attained in modern times may be given. A course of lessons should follow this so that they may be made to love the subject. It is true that out of mere curiosity many will rush forth to join the class. But it may happen after some days that one by one will be leaving on account of the exertion involved and the amount of patience demanded. It need not be emphasised, therefore, that every encouragement should be given and

they should be repeatedly told of the advantages to be derived by practising the art. They should be told that the proper use of the punctuation marks, good spelling and right syllabification can be very much improved if only studied intelligently. A very detailed and advanced description may be postponed to a later stage if necessary. Only a few elementary notions should be given. They should be shown how to insert paper, how to feed it and so on. They should be told in outline about the working parts of the machine which are of frequent use to them such as the line space lever, paper guide, marginal stops, &c. The fingering exercises should next be explained to them. To those, that intend to follow the 'Touch' system, the guide keys and the corresponding first fingering exercise should be explained and, after considerable practice in it, the next exercise should be taken up. To others the fingering exercises in either the double keyboard or the single keyboard machines should be explained according as they intend practising on the one or the other. They should be made to follow a good text-book and any one found without a copy after a severe warning should be turned out.

The correction of exercises is an important item and should be done daily if possible. It is sometimes useful to correct them in the presence of the respective students. The mistakes should be pointed out clearly and each word so found should be typed by them a number of times. The system of marks should be introduced and at the end of every week or month test examinations should be held and the progress noted. As pupils come up to speed practice, a progress register should be opened showing the number of words typed in a given time by each, the

number of mistakes committed and the average speed for the week and so on. If a sort of keen competition is created amongst them, it will stimulate their activity to a great extent. A great importance should be attached to spelling, syllabification, punctuation and supplying omissions. They should be compelled to read good books in English so that they may type any given matter with ease. They should also be able to type any confused manuscript. It may be that the writing of some people is not quite legible and so context is the sole guide in such cases. All errors about syllabification and spelling should be pointed out with great care till by practice they are reduced to a minimum. It is also necessary to see that students are neat in their execution so that the same habit may be cultivated afterwards. Both Typewriting and Shorthand will add greatly to the knowledge of English by presenting passages of good style and of current interest. The method of addressing meetings, &c., may be cultivated and a habit of precision and accuracy, developed. These are the subjects which will pay immediately and persons with good general educational qualification are sure to secure the best footings available. The ordinary routine work of typing a few letters falls to the lot of a junior typist with minimum educational attainments. All these facts should be brought home to their minds and every opportunity offered should be used to advantage.

In all large institutions, if possible, and, especially, where one has to conduct a large class, there should be an assistant teacher for Typewriting who should act under instructions from the head teacher. The latter may be engaged in teaching other subjects and hence the assistant should be in charge

of the class and also correct the exercises. The names of students arranged in batches at different periods should be typed neatly and exhibited on the notice board in the room. Charts of key-boards should be hung on the walls and students should be made to look at them while they type. The teacher should keep a vigilant watch as every error is to be mended from the very beginning. He should see that they do not press their fingers very heavily on the keys and strike them with great force or strike two at a time. There may be even boys who, for mere curiosity, would like to meddle with some part of the machine. It should be the duty of every teacher to bring them to book. Some will have a desire to type their names even when they have not finished the first exercise. Such ambitions and desires should be curbed. Some again will begin to type on cards and envelopes. When one has to conduct a large class of students in Typewriting, both the assistant and the head teachers should walk to and fro along the room watching all mistakes. In fact every precaution should be taken so that pupils do not fall into bad methods of typing. Incidentally it may be said that the terms Typewriting teacher and typist are different. In some schools attempt is made 'to kill two birds with one stroke.' It does not seem to be a wise policy. There should be a separate machine for office use and the clerk concerned should type all official correspondence; when he is heavily pressed with work or has too much matter to be typed, he may request the teacher to share his work. The distinction between a teacher and a clerk should be kept up. If a good training is imparted, students will certainly bring credit to their teacher. It should be his aim to extract the greatest amount of

work from his students systematically and steadily. But it should also be said that the desire to type too much on the part of students should be avoided. They should be made to clean and oil the machines under the supervision of the teacher. The mechanism should be taught in such a way that students may have a desire to complete what they have learnt and thus to be as perfect as possible.

It may not be out of place to make a few remarks of general interest. A small commercial students' union should be formed where the various commercial subjects should be discussed by students of which Shorthand and Typewriting should be one. A system of prizes should be introduced to encourage a spirit of emulation amongst students. A good library should be kept of all commercial books and the teacher should be in touch with the latest catalogue and indent for new and up-to-date publications. He should also keep a large stock of stationery such as paper, carbon-sheet, Typewriter oil, &c. A stock register should be kept showing the dates of arrival of the new machines, the things used and the balance of the articles on hand. He should thus show his activity in various ways.

It is a fact to be noted that success in the S. S. L. C. Examination in Typewriting and Shorthand makes pupils eligible to enter Government service. It is as valid as passing the Government technical examinations in the Elementary grade. But only one thing is defective. The same is also the case in the High School, Middle School and Scholarship Examinations for Europeans and Eurasians. Students have not to undergo any practical test in Typewriting so that most of them may

not be well acquainted with mechanism. But in consideration of their future welfare teachers may take special care in teaching the small that is necessary for the Elementary Grade and even more. Candidates should be put in the right path so that they may develop their faculties when they leave school.

Now that Tamil Typewriters are also found in the market, it may be useful to introduce them in schools if they can afford. Looking at the confused mass of manuscript in all correspondences in the various vernaculars it seems better to have typewritten matter instead so as to avoid loss of time and suspicion. The school forms a training ground for the initiation of such mysteries so that students will turn out to be practical men when they enter life. Especially it will be useful for lawyers and business men to engage the services of such men and pay them decently and such men will always be in demand now. Happily, examinations in the vernaculars in Shorthand and Typewriting have been introduced. It is a step in the right direction and worthy of commendation.

An outline sketch has been given. It cannot claim to be exhaustive. Only a few general principles have been indicated. It is hoped they cannot fail to serve their purpose within the limit of space available.

B. S. RAMASWAMI AYYAR.

TEACHERS' ASSOCIATIONS— A FACTOR OF SCHOOL ORGANISATION.

WE, in this issue, venture to offer our remarks on a subject, the importance of which is recognised, everywhere at present, on account of the innumerable facilities it affords in the direction of social evolution and advancement. Look in whatever direction we may, we find people now-a-days possessed of a new spirit—a spirit of co-operation in every field of activity—a spirit which is fast becoming an all-powerful force and in short one, which permeates through, and animates all our thoughts and actions. It has become a characteristic feature of the modern day and we have only to pity those to whom this is not sufficiently appealing, as a means of effective action. The very idea of an *esprit de corps*, which is the *sine qua non* of an organised existence, shines in all its significance and though it finds its practical application all round, we regret to say, it is an idea which some are not yet capable of appreciating, and are not willing to translate into action.

Nothing, in our opinion, is of so much importance as the cultivation of this spirit of co-operation, to the teacher who is a despicable creature in every way. The poor status he commands in society, his individuality which is, in most cases, merged in that of the Headmaster and the Manager, the way in which he is tossed like a football by the too many masters whom he has to serve and above all the fabulously low emoluments and the uncertain prospects before him, are some of the worst phases of a school-master's professional career; and especially when the times are so hard with poor school-masters, it is a matter for a thousand pities that most of them do not yet realise the strong necessity

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for a united action, which is sure to have so much good in store for them. We really deplore a gross lack of such enterprise in some of our schools and we can only point out to them here as many have done already what they actually are without Associations and what they can successfully effect with them. Co-operation is the very essence of organisation and without organisation, there can be no life. The truth of this has found happy expression in one of the interesting papers read by Mr. Ramachandra Rao, I.O.S., before a Conference at Nellore on 'Education and Co-operation' which appeared in papers a few months back. We may pause here for a while to examine the necessity for such Associations among teachers, whose pitiable voices are seldom heard in high quarters. The actual position of a teacher in a private school has been for some time a topic of graphic representation in the *Hindu* and we have only to heartily confirm what was described there very vehemently. They are, as a class, people who can neither help themselves, nor can get any outside help; and to such of those, Associations of their professional brethren serve in the first place as very powerful weapons for defending and safeguarding their interests in every way, and also go a great way towards soothing their sufferings and discontent, as teachers can find their strength in such corporate bodies, where their individual weakness is merged. In this respect, a healthy spirit of co-operation among teachers is sure to serve them as a boon and will certainly free them from the state of helplessness and despondency into which they have at present fallen owing to their gross neglect of the utility of such institutions.

What the teacher wants, in common with all and above all, is that facility for improv.

ing himself and keeping himself abreast of the times and ensuring for himself the several means which will help him to progress and not to remain stagnant. Stagnation, with a teacher, as with many others, is a sign of decay and is highly prejudicial to his interests in every way; and the most effective means of preventing him from lapsing into a state of intellectual lethargy, is found in Teachers' Associations. Though what has been once said of a lawyer and a teacher that 'the lawyer lives rich and dies rich and the teacher lives poor and dies poor' is true even now and will also continue to be so, Teachers' Associations are not, we may confess, intended to remove their disabilities in this direction. But the outweighing advantages of such institutions are too many indeed.

Besides what we have already claimed to be the necessity for, and the advantages of, Teachers' Associations, we may pass on to observe how the teacher, in schools where there are no such institutions, finds himself a Diogenes, and, how no two teachers agree with each other and how their weakness is often taken advantage of, by an unsympathetic Headmaster, who in his turn influences the management against his assistants. In fact any amount of mischief may be played by anybody on a body of teachers to whom a corporate existence is unknown and we may clearly see in schools where there are no such institutions, there are as many opinions on a subject as there are teachers and that the position of teachers is rendered weak, which is turned against them by those above them. It must be admitted on all hands that the advantages of Associations in this direction are indeed appreciable, as they serve to be the most honest and the most effective mediums of communication between the staff

and the management. The individual fancies of Headmasters, who, in certain places find their strength in the weakness of their staff and who consider Teachers' Associations to be seditious in their nature, are vigorously held in check and to that extent the interests of a corporate staff are safeguarded.

What we said above may be claimed to be a second advantage of Associations and the third and the most important advantage is that useful purpose which they serve by giving ample scope for meetings and healthy discussions on various subjects which are calculated to equip the teachers mentally and to arrest the risk of stagnation into which they may otherwise fall. Teachers' Associations are to serve a lot of useful purposes in this respect and there may and must be provision made for teachers' discussing the up-to-date methods of instruction in the various subjects and reading papers of an interesting and original character in every subject. The best place for a work of this kind is the school-house where discussions on the several subjects are characterised by earnestness, sincerity and clear thinking.

Thus Teachers' Associations may be seen to be powerful means of mental, moral and intellectual equipment and they ensure a healthy feeling of great influence, mutual confidence, solidarity and oneness among the members of the staff, which, in turn, goes to improve the tone of the school in every way.

It remains to be said in this connection to the credit of those engaged and interested, in the teaching profession that the co-operative movement has been fast spreading itself among teachers also and there are no more to be faced the dangers which attend on an altogether original scheme. Much credit is due to the South Indian Teachers' Association,

Madras, and also to the other District Teachers' Associations, which have been turning out solid work and which have been the most effective means and medium of communication between the Government and the schools besides the many advantages which they confer on those whose intellectual tone they improve and to whose various other wants they administer.

S. G. SUBRAHMANYAN.

EDUCATION IN THE MAGAZINES. (INDIAN.)

Lord Carmichael and Literature.

The seventh session of the Bengal Literary Conference met at the Town Hall, His Excellency the Governor of Bengal, who opened the Proceedings, said:—"I thank you for the honour you have done me by inviting me to come here to-day to open the Seventh Annual Session of the Bengal Literary Conference. I have heard a good deal of the work you are doing. In each of the two years during which I have been in Bengal, your meetings have been held in places other than Calcutta. This is the first time that Calcutta has been selected as your meeting place. It was with the great pleasure that I arranged to delay going up to the hill this year in order to meet this assemblage of the most distinguished men of Bengal.

"I am sorry, however, that I shall not be able to follow fully the details of the interesting Proceedings,—for such as I am sure they will prove to be—as I have many things to do and not much time to do them, as they will be conducted in the vernacular which I have not yet mastered as I should like—perhaps this matters less. The key-note of these Conferences, so far as I gather, is to further improve Bengali literature by bringing together the literary men from all parts of the Presidency to discuss topics of literary interest. It is gratifying to find that the subjects are not confined to literature alone, but embrace Philosophy, Science, History and Antiquity. The most valuable work that is done,—and one which commends itself to all,—is the research work on various subjects, the results of which are made known at these meetings. I fully sympathise

with the efforts of the organisers of these Conferences and I shall be glad to see them crowned with success. You have a language and a literature, and you are right in trying to make that language and that literature of even greater value. I congratulate you on what you have done in the past; I hope you will be even more successful now and in the future and I trust that your efforts will secure the appreciation not only of your own countrymen—who must, if they are to make the best of their country, have a thorough grasp of a language capable of accurately expressing all living ideas—but also of people of other races and of other tongues who wish to see ideas develop and come to full fruition wherever they originate."

Revival of ancient classical learning, by Hon. Mr. P. Ramanathan.

The anniversary and prize-distribution ceremony of the Madura Tamil Sangam was this year celebrated at Ramanad on the evening of the 16th instant on a very grand scale. The Hon'ble Mr. P. Ramanathan, Advocate-General, Ceylon, who presided over the meeting said, that it was essential for them to revive the ancient classical learning for which the present time was the most opportune. Sir Robert Chalmers, Governor of Ceylon, addressing a large gathering quite recently said that he could differentiate 'Senthamil' from ordinary colloquial Tamil, which many present there could not understand him. Sir Robert thereupon regretted that though Ceylon was very close to India, yet the Tamilians there did not know what 'Senthamil' was. Ordinarily people here in India mixed up English and Hindustani and Tamil words in a single sentence while speaking. The same conditions existed even 50 years ago when he himself was a student. Contrasting then the Englishman, the Frenchman, and the German with the Tamilian, he said that the former, whatever language he spoke did not, as the latter did, mix up words of the different languages together. That, he said, was scholarship. That constituted excellence. To revive Tamil learning, it was necessary that they should have such a Sangam. The Madura Tamil Sangam though it was only 12 years old had made good progress; without such a Sangam, he was afraid Tamil literature would be deteriorated and would be deposited by foreigners.

Speaking of the various ways and means of reviving Tamil learning, the President said that subscriptions should flow in like water, and without that no great work could be accomplished.

Then he commended to the audience the noble example set by Mr. S. Rm. M. C. T. Pethachi Chettiar, and other members of the Nattukottai Chetty community who had liberally subscribed towards the building fund. Their love for Tamil should grow, for Tamil should increase, if not, their prosperity would decline. The Sangam had printed and had on hand books to the value of Rs. 12,765. There were many of them rare works hitherto unpublished and which every Tamilian must study. He hoped that these volumes would by next year be sold and the money realised. A language must conform itself to the ordinary rules of grammar and it must stand the test of order, method, and position. Sanskrit and Tamil satisfied these conditions whereas English did not. Hindus could not adopt the rule of the majority. It was a foolish thing. In the House of Representatives of the United States of America he saw once on the Opening Day 700 men assembled and at a table three persons earnestly talking together. These three he was told, if they joined together would carry with them all the seven hundred. Now then, he asked, where was the rule of the majority. It was really rule of the minority that prevailed there. It was only a few that could be learned and the many could never be so.

Board or Aided Schools?

The following note from the *Bengalee* should be read with particular interest at present in the United Provinces:—

The Government of India has laid down, as our readers are aware, that the expansion of primary education should be secured by means of Board Schools except where this is financially impossible, and then aided schools under recognised management should be encouraged. The Government of Bengal is at present acting upon this principle. The defunct Eastern Bengal Government had proceeded very far in this direction. At the beginning of 1912-13 nearly 1300 Board Schools were in existence in the Eastern Bengal districts and towards the end of 1913-14, 608 new Board Schools have been organised. In the Western districts the scheme has not hitherto received much encouragement but 290 Boards Schools were provided for in 1913-14. The policy underlying the creation of board schools is to bring primary education under public management. All aided primary schools are being withdrawn from private management. This policy it should be observed, is a distinct departure from the recommendation of the Education Commission of 1882 which says that where

indigenous schools exist, the principle of aiding and improving them should be recognised as an important means of extending elementary education. The Commission was solicitous of the success of private effort in education and elaborated a system of grants-in-aid for the purpose. The change in the attitude of the Government is greatly to be regretted and will prejudicially affect the interest of education. An universal expansion of education can only be attained by fostering private enterprise by a well regulated system of grant-in-aid and supervision. It is such a vast problem that it can only be solved by real co-operation between the Government and the people. The local Government cannot unaided by the people, undertake the entire education of the people. The policy of withdrawing schools from private management, therefore, strikes at the very root of educational progress in Bengal. A board school, besides restricting private effort, labours under the disadvantage of being highly expensive. The cost of an aided primary school is about Rs. 7 a month; that of a board school is Rs. 18 a month. The construction of a board school house entails an expenditure of about Rs. 1,000 but it is well-known in Bengal that a primary school building need not cost more than 200 rupees. The Board School policy will unnecessarily increase the outlay on primary education and thus exhaust the provincial allotment for the purpose. The result will be a contraction of the area of education. The establishment of board schools involves some concentration of the grant. It is, therefore, a matter of common experience that a board school often sounds the death-knell of smaller schools in the neighbourhood. Decrease of schools means a decrease in the number of pupils attending them. It means a contraction of the area of primary education. This is what is happening in Bengal at the present moment. We cannot contemplate such a result with equanimity. We implore our countrymen to enquire into the matter in their respective localities. The question is extremely serious and ought to engage their best attention and care.

(FOREIGN.)

Byron in Rome—Echoes from the Past.

The half identification of the house—66, Piazza di Spagna—where Byron lodged in Rome during April, 1817, for barely three weeks recalls us to that unfading compelling personality. There he finished "Manfred" and dashed off those wonderful stanzas of "Childe Harold." This was the sole visit that he paid to the capital of the

Cæsars, and it was after it, at the Venetian carnival of the ensuing year, that he was to send Murray that thrilling and Roman sentence, "I will work the mine of my youth to the last veins of the ore, and then—Good night. I have lived and am content." A few years longer he lived, never content—ever the mad bull in the Dresden china shop of society; finally a hero intercepted by a fever—and a hero for the future of a nation that mainly appealed to him through their past. He deemed himself a fallen spirit. A spirit he certainly was, and the strange light (or lightning) of him still shoots and flashes.

What did he see in Rome? Very few letters survive and an important one from his sister is missing. "Childe Harold" communicates his inmost thoughts, but from passers-by concealed the depths. Rather with infinite curiosity and 'insouciance' he surveyed the modern things in their majestic setting, and he surveyed them with ironic mirth as well as with his ironic melancholy. The British tourists who made him one of their gazing-stocks were his abomination. But he loved all queeresses, even the queeresses of coiffure.

I perceive (he tells Murray) you are publishing a Life of Raffael d'Urbino. It may perhaps interest you to hear that a set of German artists here allow their hair to grow and trim it into his fashion, thereby drinking the cummin of the disciples of the old philosopher (Latro, the rhetorician, who recommended it for a "studious complexion"). If they would cut their hair, convert it into brushes, and part like him, it would be more "German to the matter"—I'll tell you a story. The other day a man here—an English—mistaking the statues of Charlemagne and Constantine which are Equestrian, for those of Peter and Paul, asked another which was Paul of these same horsemen?—to which the reply was, I thought, Sir that "St. Paul had never got on horseback since his accident!" I'll tell you another; Henry Fox, writing to some one from Naples the other day, after an illness, adds—"and I am so changed that my oldest creditors would hardly know me."

These stories of their kind would be difficult to better; the last is worthy of Sheridan.—*The Bengalee*.

The King on School Life.

The King visited Cambridge on April 30 to inaugurate the New Gateway Buildings of the Leys School. In honour of the occasion the school children of the town had been given a

holiday and some thousands of them lined the Newmarket Road and East-Road and cheered His Majesty as he drove from Newmarket in a motor-car. He was accompanied by Captain Godfrey-Faussett and Major Clive Wigram.

At the King's suggestion the ceremony was as far as possible a school one, and the visitors, who numbered 700 or 800 were chiefly old Leysians and others connected with the school. An address, signed by Sir George Chubb, the Headmaster, and the Head Prefect, on behalf of the governors, masters, and boys, was read by Sir George Chubb. The address recalled the opening of the new buildings of the School Mission by his Majesty as Prince of Wales and spoke of the ideals and principles in accordance with which the school is carried on.

In reply His Majesty said:—

I thank you for your loyal address. It has given me great pleasure to come here to-day and inaugurate the new building, which worthily completes the school quadrangle and will provide the school with the means required for the fuller development of its work. I know and appreciate the character of the work which the school is doing, not only in the training of mind and body but also in the formation of character. In the Leys School boys from families representing many different aspects of religious thought are brought together at the most impressionable time of their lives, and in their joint life here they learn lessons of mutual toleration and co-operation for common ends which later they will carry into the wider life of the Universities and the world.

The Leys School though it is comparatively young in years, has already a distinguished record to its credit. The Queen and I have not forgotten the visit which we paid some years ago to open your mission in the East End of London, and I am glad to know that in this and every other department of the life of a public school you are taking a worthy place with the older public schools of the country. I cordially wish the Leys School a continuance of its successful career and pray that it may long flourish as a home of sound learning and true religion.

How an Indian University is constituted, by Prof. Arthur Smithells.

Prof. Arthur Smithells of the University of Leeds observes as follows:—

There are about 20 colleges affiliated with the

Punjab University, which is modelled on the London University, and is therefore an examining institution. The chief of these colleges are located in Lahore, as is befitting to the capital, and the remainder are scattered up and down the province. With the exception of the Government College they are founded by separate bodies, like the American Mission, the Sikhs, and the Mahomedans as communities, and the rulers of Native States. In each of the colleges, there is a staff of teachers, not necessarily for every subject. These colleges vary in size and efficiency. Everywhere it is found that the students display considerable keenness for 'getting on.' In the eyes of a Western educationist, it seems that there is too much of 'committing to memory' instead of the cultivation of individual thought in the systems now in vogue.

'It is very remarkable,' says Professor Smithells, 'to see how the Indians in the colleges of the Punjab are developing a corporate life. They have their own societies, and engage extensively in athletics, a comparatively recent, but very important development. The great bulk of the students live in hostels. Thus they are trying to realise some of the excellent features of English college life—the civilising influence of association in societies and the playing of games. Prof. Smithells thinks that a first object there should be to stimulate social life among the students and especially the playing of games. By this means will be fostered *esprit de corps* and individual character; a certain standard of conduct will be established, and encouragement will be offered for the cultivation of the supreme masculine virtues. He looks upon this, in fact, as a very necessary foundation of the educational system in India.'

There is a comparatively small amount of research work being done in the Punjab on account of the lack of an industrial medium. Agriculture is really the one industry. There is a certain amount of cotton 'ginning,' and a good deal of sugar grown, but although the University of Lahore has an excellent professor of chemistry, capable of training men to carry out chemical research, there is at present little for these to do. The position in this respect is summarised rather tragically. 'I was besieged time after time,' observes Professor Smithells, 'by chemists who have been trained in England. "What are we to do?" they asked. "We cannot find a job."

THE UNIVERSITIES.

MADRAS UNIVERSITY.

Special Meeting of Senate.

A Special Meeting of the Senate was held on the 29th ultimo with the Vice-Chancellor in the chair. There was a large number of Fellows present, including several persons from the mofussil.

PROFESSOR OF COMPARATIVE PHILOLOGY.

Having vacated the chair temporarily in favour of Mr. E. W. Middlemast, the Vice-Chancellor moved the following recommendation of the Syndicate:—

"The Syndicate reports to the Senate that, under Regulation 98 (iii), it has nominated Mr. Mark Collins, B.A., Ph. D., Professor of Sanskrit and Comparative Philology in the University of Dublin, as University Professor of Comparative Philology with special reference to Sanskrit and the Sanskritic languages of Southern India, including Urdu." The proposition was put to vote and carried.

READERS IN PHILOLOGY OF INDIAN LANGUAGES.

Mr. E. W. Middlemast then moved the following recommendation of the Syndicate and proposed that the appointment of the six gentlemen as University Readers be sanctioned by the Senate:—

The Syndicate reports to the Senate that in its opinion none of the applicants for the University Professorship of Dravidian Philology possesses, at present, qualifications for the Professorship, but as several of them have undoubtedly done good work, while others have shown promise of the same, the Syndicate recommends that the following be appointed "Readers" in the Philology of Indian languages for a period of not less than two years with effect from July 1914, on monthly salaries of Rs. 250 (together with any pensionary or Provident Fund contributions payable by each), that they work under the guidance of the Professor of Sanskritic Philology, and that later one or more of them be sent to Europe to be trained with a view to the Professorship of Dravidian Philology:—(1) Mr. K. V. Subbaya, M.A., L.T., Assistant Professor of English, Presidency College; (2) Mr. S. Anavaratavinayagam Pillai, M.A., L.T., Superintendent of Vernacular Studies, Madras Christian College; (3) Mr. K. Amma Rau, M.A., L.T., Latin Master, Presidency College; (4) Mr. O. P. Venkatarama Aiyar, M.A., L.T., First Assistant, Government Training School, Saidapet; (5) Rao Saib G. V. Ramamurti, B.A., M.A.S., late

Lecturer in History, Raja's College, Parlakimedi, and (6) Mr. M. Seshagiri Prabhu, M.A., First Assistant, Government Training School, Rajahmundry.

There was much opposition and criticism on this proposition. The meeting being a special meeting, according to regulations, amendments could be moved without previous notice, and advantage of this regulation was taken by several Fellows to come forward with a number of amendments, almost all of them being put to the vote and lost.

PROFESSOR OF INDIAN HISTORY AND ARCHAEOLOGY.

The Vice-Chancellor then moved the following recommendation of the Syndicate:—

The Syndicate reports to the Senate that under Regulation 96 (iii), it has nominated Mr. R. A. Narasimhachariyar, M.A., of the Archaeological Department, Mysore, as University Professor of Indian History and Archaeology, that negotiations are still in progress with Mr. Narasimhachariyar, who has not yet accepted the appointment. The Syndicate requests that in the event of his being able to accept the post, the appointment of Mr. Narasimhachariyar be sanctioned.

Mr. Ramalinga Reddi seconded the motion, which was then carried.

ADDITIONAL UNIVERSITY LECTURES.

On the motion of Mr. Middlemast, seconded by Mr. G. A. Natesan, the following recommendation of the Syndicate was approved by the Senate:—

The Syndicate submits to the Senate, for sanction under Regulation 394, the following "Ordinary" University lectures for the academic year 1914-15, "in addition" to those sanctioned by the Senate at its adjourned meeting held on March 21, 1914:—

Mr. S. Krishnaswami Aiyangar, M.A., The Empire of Vizianagar, All years, 20 to 24 lectures, January to March 1915. Rev. E. M. Macphail, M.A., B.D., Nationality and its Influence in the Development of States, 2nd and 3rd years, 20 or more lectures, January to March 1915.

ASSIGNMENT TO FACULTIES.

On the motion of Lt.-Colonel G. G. Giffard, seconded by Mr. Winckler, the following recommendation of the Syndicate was approved:—

That the following newly appointed Ordinary Fellows be assigned to the Faculty of Arts:—

The Rev. H. J. Quinn, the Rev. Peter Carty, Mr. Henry Herbert Dodwell, Mr. Iyaswami Srinivasa Aiyar and the Rev. William Michael Zambro,

The undermentioned candidates passed in the following examinations:—

B. S. Sc. Degree Examination, 1914.

II Class.—Adiseshan, R. 267.

M. A. Degree Examination, 1914.

BRANCH VI—MALAYALAM (8 CANDIDATES)

II. Class.—Kunhirama Menon, Chengalot (Kanarese), Ramalingam Pillai, Tanu (Tamil), Subramanya Aiyar, Sankarasesha (Tamil).

III Class.—Kanari, Canoth M. (Tamil), Narayanan, Muliyl (Tamil), Sankara Pillai A. (Tamil), Subramanyan Potti, C. Sankaran (Tamil).

BRANCH VI—LATIN (1 CANDIDATE)

One candidate appeared and he failed.

B. A. (Honours) Degree Final Examination, 1914.

Branch viii (Sanskrit Language and Literature).

The following are the successful candidates in this examination:—

II Class:—V. Krishnamohan, K. Satagopachari, and S. T. G. Vardacharyulu.

III Class:—Kerala Varma and R. Kesavan.

CALCUTTA UNIVERSITY.

Senate Meetings.

THE NEW VICE-CHANCELLOR.

The Hon'ble Dr. Deba Prosad Sarbadhikari, the new Vice-Chancellor of the Calcutta University, took his seat for the first time as such in the deliberations of the Calcutta University at a meeting of the Senate, which was held at the Senate House, College Square, on the 25th ultimo.

The Registrar then placed before the Senate a letter from the Joint Secretary to the Government of India, Department of Education, stating that the Governor-General of India in Council had been pleased to appoint the Hon'ble Dr. Deba Prosad Sarbadhikari to be the Vice-Chancellor of the Calcutta University with effect from the 31st March last. The letter was recorded.

REPRESENTATIVE ON SYNDICATE.

The Hon'ble Dr. Nilratan Sircar was then elected as the Representative on the Syndicate for the remainder of the current year, in place of the Hon'ble Dr. Deba Prasad Sarbadhikari, who on his appointment as Vice-Chancellor, had become 'Ex-officio' President of the Syndicate.

UNIVERSITY LECTURER.

It was next resolved that Babu Aswini Kumar Mukherjee be appointed an additional University Lecturer in History at Dacca (with effect from the commencement of the ensuing session).

WEALTH OF AMERICAN UNIVERSITIES.

The figures given below speak of the wealth of American Universities, for which we are indebted to the New York correspondent of the *Daily Express*.

			Rs.
Harvard ...	...	...	8,23,20,000
Stanford ...	...	...	7,20,00,000
Chicago ...	...	...	5,44,95,000
Yale ...	...	...	4,39,95,000
Texas ...	...	...	3,00,00,000
Cornell ...	...	...	2,87,55,000
Columbia ...	...	...	2,70,85,000
Carnegie Institute of Technology, Pittsburg ...	...	...	2,10,00,000
Pennsylvania ...	...	...	1,99,65,000

The Universities stand as stated below in respect of their annual incomes:—

			Rs.
Harvard ...	...	...	76,95,000
Cornell ...	...	...	74,55,000
Minnesota ...	...	...	70,65,000
Wisconsin ...	...	...	64,65,000
Pennsylvania ...	...	...	57,15,000
Columbia ...	...	...	52,65,000
Chicago ...	...	...	52,20,000
Yale ...	...	...	49,65,000
Michigan ...	...	...	45,45,000
Stanford ...	...	...	42,00,000

TECHNICAL EDUCATION.

TECHNICAL SCHOLARSHIPS.

The tenth annual meeting of the Central Council of the Association for the Advancement of Scientific and Industrial Education of Indians was held in the Town Hall. There was a fairly large attendance of members representing various districts in Bengal. The proceedings commenced with a prayer by the Rev. Mr. Lequeone.

The following resolutions were then passed:— That in view of the fact that there is a great and growing demand in the country for the services of civil engineers, this Council urges the Government not to abolish the Civil Engineering College at Sibpur or remove it from the neighbourhood of Calcutta; that this Council while recording its sense of gratitude towards Government for practically adopting the suggestions of the association for establishing a fully equipped technological institution or in the vicinity of Calcutta respectfully urges the necessity of having the college sufficiently highly equipped to receive affiliation in the Calcutta University for degrees in civil, mechanical, mining, electrical engineering and industrial chemistry; that this Council urges the people of Bengal, especially the monied classes, to start such industries as are suited to the conditions of the province and request them not to be disheartened by difficulties which have attended early ventures in all countries; that the attention of the capitalists of this province be drawn to the fact that the industries of sugar, matches, hosiery, paint and pottery can be profitably started here and the Government be asked to afford all reasonable help and facilities for starting these industries; that the Government be requested to take steps for allowing cultivators residing on the seashore or on the banks of salt water rivers to manufacture salt for home consumption; that while thanking the Government for the increased expenditure on secondary and higher education, this Council desires to express its opinion that the expenditure incurred for primary and technical education is extremely inadequate and should be substantially increased; that this Council urges the people and the Government to encourage the growth of indigenous industries by giving preference to home-made goods as far as practicable; that this Council requests the Government to establish model farms in the interior for each district and to appoint travelling inspectors for advising cultivators as to the best means of improving agriculture in the different localities; that this Council views with alarm that all

trade in this province is gradually passing into the hands of people of other countries and provinces and considers it extremely desirable that some steps should be taken to divert the attention of the people from the quest of service or employment in the learned and clerical professions; that having regard to the fact that this Association affords a platform where Hindus and Mahomedans can work together and also having regard to the fact that the Association has every year sent abroad for education Mahomedan students, it is desirable that the Mahomedans of this province should join in larger numbers and heartily co-operate with the Association. That having regard to the fact that the separate Association started at Behar has hitherto been able to send only one or two students, the people of Behar should as before heartily co-operate with this Association which has every year been sending Behari students to foreign countries for education.

Office bearers and members of the Executive Committee were then elected and with the usual vote of thanks to the chair the meeting terminated.

Reviews and Notices.

LOWSON'S TEXT-BOOK OF BOTANY (INDIAN EDITION)
ADAPTED BY WILLIS. (PUBLISHED BY THE
UNIVERSITY TUTORIAL PRESS). 6s. 6d.

Mrs. Willis has published an Indian adaptation of Lowson's Text-book of Botany with a view to bring it within the scope of the Indian student of Botany. Text-books dealing with Indian plants are very few in number and every new publication on Indian Botany will certainly be welcomed by all Indian teachers and students of Botany.

However, this book is, we regret to say, rather disappointing indeed. On glancing through the preface the reader feels very glad that a good text-book on Indian Botany has been published. But a study of the book completely belies his expectations. He does not feel that he is reading a book on Indian Botany, but a book on English plants with occasional references to Indian plants. The adaptation is not properly carried out. The types still remain English. Indian examples are very few. Illustrations of Indian plants are prominent by their scarcity.

To mention a few out of the many instances, the author gives as examples of nuts, the hazel, the oak, the beech and the sweet chestnut; as

examples of siliqua, the wall-flower and the stock; as examples of achenes, the docks and the sorrels; as examples of samaras, the ash and the elm; and as examples of pappus bearing flowers, the dandelion, the thistle and the groundsel—all foreign plants. While there are plenty of Indian plants to illustrate the above, the author does not refer to them.

A good feature of the book is that a few Indian natural orders are specially included in the book. Another good feature of the book is that lists of plants of economic value are given at the end of the several natural orders. Another portion which may be specially interesting to the Indian student is the chapter on plant ecology. A good number of Indian plants is mentioned in this connection. But even here, they are mere lists of plants and not instructive descriptions of them. For dispersal by water and by animals, very few Indian examples are quoted, though Indian examples are in plenty. Again *Pongamia glabra* fruits are not adapted for dispersal by wind. They are adapted for floating in and dispersal through water.

The idea of adapting a good text-book of Botany to Indian conditions is an excellent one. But the adaptation itself is very poorly done.

REPRESENTATIVE ENGLISH COMEDIES, BY C. M. GAYLEY, VOL. I, FROM THE BEGINNINGS TO SHAKESPEARE, 6s. 6d. net; VOL. II, SHAKESPEARE'S LATER CONTEMPORARIES, 8s. 6d. net. (MESSRS. MACMILLAN & CO., LTD.)

"The texts are of primary importance. Cheap reprints however welcome in certain conditions, will not serve the full need of the scholar. He must make direct acquaintance with the written word, in the form in which, as far as it can be ascertained, it came from the pen of the author.The scholarly text is the first and foremost source of literary knowledge. No sound progress is possible without it." Such is the emphatic opinion of Sir Sidney Lee on the value of scholarly texts for the purposes of literary study. In this age of publishers vying with one another, in the production of cheap reprints of literary masterpieces, there is a tendency to attach less and less importance to all the apparatus of critical commentary and explanation, associated with the scholarly edition of a work in literature. But the needs of University study and research render its existence the main condition of a good book, and a very warm welcome must therefore await productions

like the *Representative English Comedies* of Dr. Gayley. It is nothing strange that within the last few decades, the scientific spirit should have begun to influence even the methods and spirit of literary study, if not of literary interpretation. The collection of genuine specimens and the examination of all details bearing on the subject, are to-day as much a feature of literary research, as of scientific enquiry. It is too much to claim that the æsthetic interpretation of literature is dependent on them, but it will be granted that they always enter largely into its regulation.

Professor Gayley has long enjoyed quite a reputation in this particular department of literary history, and with the association of a number of other experts, he has been able to produce an edition which will satisfy the needs of the most scrupulous scholar. Each volume has valuable critical studies, of the comedy of the period, of the dramatists whose work has furnished specimens, and the individual pieces themselves. The original texts with a few desirable alterations of spelling and script are reproduced here, and it is no exaggeration to say, footnotes have been supplied wherever the reader expects them, or wherever they are likely to throw fresh light on textual, or critical matters. The editor can certainly claim to have more than achieved his aim, that of indicating the development of a literary type, by a selection of representative specimens, arranged in order of their production, and accompanied by critical and historical studies.

It is therefore not by virtue of accurate texts of individual plays alone, that Dr. Gayley's volumes form an indispensable addition to every English scholar's library. The specimens have been so selected and arranged that no volumes can give better assistance, for an appreciation of the evolution of what is perhaps the most important branch of English Drama. Heywood, Udall, Stevenson, Lyly, Pease, Greene and Porter furnish matter for the first volume. We have very little quarrel with the selection of either the dramatists or the pieces, except to observe, that Stevenson and Porter need not have been there and the omission of the delightful *Four P's* of Heywood is rather unfortunate. The criticism however does not detract very much from its value as a record of pre-Shakespearean Comedy.

We are prepared to extend the same unhesitating approval to the contents of the Second Volume with selections from Ben Jonson, and the *Eastward Hoe* of Chapman, Jonson and Marston. Without any desire to under-rate the literary greatness of Ben Jonson, who has sometimes been called the

Father of English Social Comedy, we grudge the giving of nearly four hundred pages to his work, in a volume of about six hundred pages, devoted to the Latin contemporaries of Shakespeare. Considerations of space probably prevented the inclusion of *Volpone*, in addition to the *Silent Woman*, *Every Man in His Humour* and the *Alchemist*, but the reader has missed a comic masterpiece of great genius, which Coleridge has very deservedly called the greatest of Ben Jonson's works.

The critical essays are uniformly good, though we have ourselves a partiality for Dr. Gayley's two introductory general essays and Dr. Dowden's essay on *Shakespeare as a Comic Dramatist*. We however venture to say the critical studies might very well have been more readable, without any sacrifice of either fullness of detail or accuracy of treatment. And we have no doubt that one of the first things to do in the next edition, must be, to assign a better type to the critical pages for the editor surely intends them to be read through.

Dr. Gayley is not making any extraordinary claim for the interest of this period of English Comedy to the general reader, when he says, "Old comedies make good reading, not only for lovers of fiction and the stage, but for the student of society and the historian. For us they still are living sketches of social manners, morals, vanities and ideals of generations of our ancestors; history 'unknownst' as written by contemporaries. Unfortunately, many of these old comedies are inaccessible to the public; and therefore we venture to hope that the general reader may find such a collection as the present acceptable, whether he care to enter upon a historical and technical study of the subject, or not." The general student of literature might very well dip into these pages, for an occasional hour of delightful entertainment, though he is not probably prepared to subscribe to the somewhat immediate eulogy of the drama of this period by critics like Charles Lamb, or Swinburne. We confess we have not much sympathy with Frederic Harrison's condemnation of Elizabethan comedy in his recent volume, *Among My Books*, though we have perceived even in India, a regrettable tendency to exaggerate its literary value and importance. We eagerly look forward to the appearance of the other volumes in this splendid series.

HIGHER ALGEBRA, BY W. R. MILNE (EDWARD ARNOLD, LONDON) 7s. 6d.

This is a handy volume consisting of 586 pages written on totally new lines. There is a marked

departure from the usual way both in the order and treatment of the subject. The first chapter is on Rational Numbers and the second on Irrational Numbers which includes limits and convergence of series. The treatment of irrational numbers is based on Dedekind's Postulate, the main reason for the use of this postulate being to enable the students by geometrical representation to see for example that $\sqrt{2}$ & 1.4142 or π & 3.14159 are distinct numbers. The subsequent chapters are in order on the Summation of Series, the Binomial Theorem, Permutations and Combinations, Logarithms (including the Exponential and Logarithmic Series) and continued fractions. There are also chapters on the Theory of Equations (including Complex Numbers and Partial Fractions) and determinants. The last chapter is on Miscellaneous Theorems. There is also a very carefully graded collection of 400 Miscellaneous examples.

One important feature of the book is that Graphical Methods are freely used. Such methods are used for example to represent Irrational numbers, Complex numbers, the approach of a simple continued fraction to its limit and the real roots of equations. The examples under each chapter are many and varied and are collected chiefly from the Scholarship Examination Papers. This volume though not fit to be used as a Text-Book is invaluable to students of Mathematics who take real interest in the study of Algebra and will surely be a valuable addition to the mathematical library of any college.

PUBLICATIONS RECEIVED.

Early English Social History, by Agnes F. Dodd. London: Bell. 1s. 6d.

Ancient History for Schools, by E. Nixon and H. R. Steel. London: Bell. 2s.

Historical Course for Middle Forms, by B. L. K. Henderson, M.A., D. Litt. Vol. I, 2s. Vol. II, 2s. London: Bell.

The Children's Classics, Intermediate No. 45, The Gods of the North, by A. & E. Keary, 3½d. Senior II, No. 63. Little Women, by Louisa M. Alcott. 5d. London: Macmillan.

First Books of History: Irish History by H. Kingsmill Moore, 1s. 6d.; English History, by J. C. Hearnshaw, 1s. 6d. London: Macmillan.

Scott's Lay of the Last Minstrel, by T. T. Jeffery, M.A., London: Clive. 1s. 6d.

Shakespeare's Hamlet. Edited by S. G. Dunn, M.A., I.E.S., Oxford University Press.

The Government of Man, by G. S. Brett, M. A., London: Bell.

A Junior Trigonometry, by W. G. Borchardt, M. A., B. S. C. and A. D. Perrot, M.A., London: Bell.

British Church History, to 1000 A. D., by the Rev. W. H. Flecker, M. A., D. C. L. London: Bell. 1s. 6d.

Selected English Short Stories (Nineteenth Century) by Hugh Walker, M. A., L.L. D. Oxford University Press. 1s. net.

Selected English Speeches (from Burke to Gladstone) by Edgar R. Jones, M. P. Oxford University Press. 1s. net.

Selected English Letters (XV to XIX Centuries) by M. Duckitt and W. Wragg. Oxford: University Press, 1s. net.

Les Plaideurs Comedie en Trois Actes Par Racine, London: Bell. 6d.

Isaiah, XL—LXVI. Edited by the Rev. W. A. L. Emslie, M. A. and the Rev. John Skinner, D.D. Cambridge University Press. 1s. 6d. net.

Sentence Expansion leading to Free Composition in French, by Marc Ceppi and Henri Rayment. London: Bell. 1s.

French Composition Book, by Margaret Kennedy. London: Bell. 8d.

L'Avare—Comedie en cinq Actes—par Moliere, London: Bell. 8d.

The Life of James A. Garfield (Tamil) by A. Subramania Iyer, B.A., L.T., Kumbakonam: Hindu Educational Trading Co. 10 as.

Here and There Stories: Junior No. 1, Children of Here and There. 3d.; Senior No. 13, Here and There in America, 5d. London: Macmillan.

How and Why Stories: Intermediate No. 8, The Magic Garden 4d.; Junior No. 1, Children of the Fields and Woods, 3d. London: Macmillan.

Then and Now Stories: Junior No. 1, Children of Then and Now. 3d. Intermediate No. 7, Story Tellers of Then and Now, Senior No. 13, Life in England, Then and Now. 5d. London: Macmillan.

The World and India, by P. C. Wren, M.A., I. E. S. Oxford University Press, Bombay,

*Bacon's Essays, edited by Fred. Allison Howe, L.L.B., Ph. D., Bangalore. Heath, London: 1s. 6d.

*Carlyle's Essay on Burns, edited with Introduction and Notes, by Andrew J. George, M.A., Bangalore: 1s.

*Coleridge's Ancient Mariner, edited with Introduction and Notes, by Andrew J. George, M.A., Bangalore: 1s.

*Milton's Minor Poems, edited with Introduction and Notes by Albert Perry Walker, M.A., Bangalore: 1s. 3d.

* These are available for sale at the P. T. I. Book Depot, Bangalore.

Indian Educational Notes.

MADRAS.

Government Grants.—The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure nor Rs. 10,000, towards the cost of construction of a hostel for the A. B. M. High School, Nellore, subject to the conditions prescribed in the Grant-in-Aid Code. On those conditions being fulfilled, the grant will be paid as funds become available.

Kavali Range Vacation Classes.—The above classes commenced on Wednesday, the 20th instant with 50 teachers of Kavali Taluq. and continued for three days ending with 22nd May 1914. The following lectures and model lessons have been delivered:—

20th May '14.

From 7 A.M. to 10 A.M. and 3 P.M. to 4-30 P.M. a model lesson on "The teaching and method of work with demonstration" was given by M.R.Ry. S. Bhavaraha Rao Pantulu, B.A., L.T., Sub-Assistant Inspector of Schools, Kavali Range. The same gentleman delivered a lecture on 'Physiology' from 4-30 P.M. to 6 P.M. Several detailed points on Human System and Organism were fully discoursed.

21st May '14.

From 7 A.M. to 9 A.M. a model lesson on "The three R's and Scheme of Studies" was given by M. R. Ry. V. Somayya Garu, Senior Supervisor of Schools of the Range. The teaching was very impressive and several doubts of teachers were cleared out. Two problems, one of decomposition of figures and another on simple practice

were fully explained and taught. From 9 A.M. to 11-30 A.M. and 3-40 P.M. to 5 P.M. another interesting lecture on 'Physiology' by the Sub-Assistant Inspector of Schools, Kavali Range, through means of physiological charts, was made. The teachers had come to understand this new subject by the practical way which the lecturer adopted.

22nd May '14.

From 7 A.M. to 9 A.M. an instructive and useful lecture on 'The Agriculture' was given by M. R. Ry. V. Krishnaswami Rao Patulu, Chairman of Kavali Union. The methods of agriculture and farming used in America, England, and India were compared and contrasted with each other. The practical ways of breeding cattle and several useful points on domestic economy were dealt with at large.

From 2 P.M. to 3 P.M. there was a lecture on 'History and Geography' by M. R. Ry. V. Venkatasubbayya Garu, B.A., Pleader of the locality, which had been characterised by vivid and plain analysis.

From 3 P.M. to 4-30 P.M. M. R. Ry. S. Bhavaraha Rao Pantulu, B.A., L.T., spoke on 'Civics' which contained the curricula to be taught in Elementary Schools. He laid much stress on the unitation and habit in moral instruction afterwards. Copies of 'The Salutation to the Flag and National Anthem' prepared and printed by Mr. T. Subbaiah Pantulu, of Sree Gnanodaya Samajam, Nellore, were freely distributed among the teachers assembled there. On behalf of all the teachers present on the occasion, Mr. V. Pichayya proposed a hearty vote of thanks to all the lecturers.

The singing of the National Anthem and prayer brought all the proceedings to a close.

The Mahomedan Educational Association.—The twelfth annual meeting of the Association was held in the Lawley Hall, Mount Road, with the Hon'ble Mr. Justice F. B. Tyabji (President) in the chair. The meeting was well attended. The whole proceedings except the Chairman's remarks, were conducted in Urdu.

Mr. A. Hameed Hasan, Honorary Secretary, read the Annual Report for the year 1913-14. The Chairman then made a short speech in the course of which he said that the report had been well discussed. He referred briefly to the valuable work done by the late Mr. Justice Boddam for the Association, and to his keen interest in matters connected with Mahomedans. He also made men-

tion of the good work done by Mr. Justice Abdur Rahim, his co-religionist who was temporarily absent and who he hoped, would come back soon and be able to take his place in the Association. Mr. Justice Abdur Rahim was a worthy successor to the late Mr. Justice Boddam. The Association was indebted to both of them and to all those who had liberally helped the Association with funds, especially to the All-India Mahomedan Educational Conference. The meeting was comparatively a good one. All professions and all sections of the Mahomedan community were represented there, and they had given the benefit of their experience. In conclusion, he expressed on behalf of himself and of those present at the meeting, their gratitude to those who had done real work for the Association, namely, the Honorary Secretaries.

With a vote of thanks to the Chair proposed by Khan Bahadur Mahomed Abdul Kuddus Badsha Sahib, the meeting terminated.

Pachaiyappa's High School, Chidambaram.—The prize-giving at the above school took place on the 25th ultimo with Dewan Bahadur Justice Sadasiva Iyer, in the chair. The attendance at the meeting was large, and included amongst others, Messrs. C. P. Ramaswami Iyer, and V. Masilamony Pillai, Trustees of Pachaiyappa's Charities, Madras, Khan Bahadur M. Azizuddeen Sahib, Collector of South Arcot, and Dewan Bahadur S. R. M. Ramaswami Chettiar. Letters received from Mr. F. H. Hamnett, I.C.S., District Judge of Cuddalore, and the Hon'ble Rao Bahadur A. Subbaroyalu Reddiyar, and Mr. Pattache Chettiar and certain other gentlemen who were unable to attend the meeting, conveying their good wishes for the school, were read. Mr. K. Ramanuja Iyengar, Headmaster, presented the sixty-third annual report of the school, after which the Chairman distributed the prizes, and made a speech in Tamil. Mr. C. P. Ramaswami Iyer made an eloquent appeal to the public for aid to their funds which were now insufficient to meet the growing requirements of modern education. As far as their resources permitted, the Trustees had been providing for the wants as they arose in the development of their educational policy; and while thus much had been done in recent years to supply the deficiencies in the management of Pachaiyappa's educational institutions, more remained yet to be done for which he took that opportunity to appeal to them for help indicating the different directions in which provision had remained to be made for the supply of educational wants.

The above appeal was supported by Mr. V. Masilamony Pillai, another Trustee of Pachaiyappa's Charities.

A resolution was next passed appointing a local Committee, of which Dewan Bahadur Ramaswami Caettiar was nominated President, with authority to raise public subscriptions in aid of Pachayappa's charities.

A Literary Association.—The fourth anniversary of the Literary Association, attached to the Hindu High School, Srivalliputtur, was celebrated on the 28th instant, in a fitting manner, in the school premises, with Mr. S. R. Krishnamachariar, B.A., in the chair. At about 5-30 P. M. a public meeting was held, which was largely attended, Mr. T. B. Russell, I. C. S., and Mr. C. I. E. Ward being among the notable gentry present. The proceedings commenced with the reading of the annual report by the Secretary of the Association, followed by an essay on 'Drama and its influence on public life,' by Mr. V. Ganapathy Iyer, a member of the Association. The essayist took a comparative view of the origin and growth of dramatic literature both in England and in India and drew attention to the fact that music plays an important role with regard to Indian dramas. The Chairman then rose up and made certain interesting remarks bearing on the subject-matter of the essay. At about 8 P. M. some of the members of the Association successfully put on boards Shakespeare's 'Winter's Tale,' A 'Magic' performance, by Mr. S. Narayana Iyengar brought the proceedings to a close.

The Indian Educational Service.—It is understood that Mr. A. M. Kandeth, M.A., L.T., Bar-at-Law, will be appointed to the Indian Educational Service and posted to Madras. Mr. Kandeth is the eldest son of Hon'ble Mr. V. K. Nayanar, a wealthy landlord of Malabar. Mr. Kandeth graduated at Cambridge where he stayed for five years and passed in the historical tripos. He topped the list in Modern History in the last Civil Service examination and was fifth in Literature. He would have entered the Civil Service but for 125 marks deducted for bad writing. He will be the third Indian to be appointed to the Indian Educational Service and the first from South India. He was first offered an appointment in Indian Educational Service in Assam which he could not accept as he was not willing to go to that part of the country.

Conference of Secondary Teachers.—The Annual Conference of Teachers of Secondary

Schools in the Ganjam, Vizagapatam and Godavari districts, was held at Mrs. A. V. N. College on the 4th instant and the two succeeding days, with Mr. C. Ransford, Inspector of Schools, First Circle, in the chair. About one hundred teachers and the more prominent inspecting officers, attended the session to discuss various subjects in connection with Secondary Schools. Papers were read on the subjects taught in the schools and were followed by discussions.

The following Resolutions were formally proposed and adopted at the Conference.

(1) "This Conference is of opinion that these non-detailed text-books for the S. S. L. C. examination are more difficult than the detailed text-books."

(2) "This Conference is of opinion that due recognition be given to school marks in the S. S. L. Certificate, in deciding upon the qualifications for admission into the Intermediate Class."

"That a copy of the Resolution be forwarded to the Syndicate of the Madras University and to the Director of Public Instruction."

(3) "That the Director of Public Instruction be requested to move the Government to send a circular to all Departments, pointing out that due recognition be given to school marks in the S.S.L.C., in the selection of candidates for Public Service."

CALCUTTA.

Dr. Rabindranath Tagore.—Captain J. W. Petavel, R.E. (retired) contributes an article under the heading, 'Rabindranath Tagore and Social Reform via Educational Reform' to the April number of the *Asiatic Review*, wherein he says that India is quite familiar with the idea of industrial educational establishments, which have existed from the earliest times in the form of Gurukulas and that many reformers entertained hopes of seeing the whole problem of popular education solved by the old system in the modern form. Proceeding, he says that Dr. Tagore has brought together eastern and western reformers who are working for this cause and that under his auspices the first practical step in this direction has been taken. The writer himself is one of those engaged in the great work. Dr. Tagore's educational organization is meant to be a great co-operative organization, because when the people have learnt what can be done by co-operation, they will insist on proper conditions of life and labour being secured to them. Then we are told that India's great poet and educationist is of opinion that educational colonies should be started as a private enterprise. It would indeed be difficult to make establishments of this character paying from the beginning, but we

are assured that there are numbers of parents willing to pay some money in order to have their boys employed for a few years after leaving school in healthy work that would build up their constitutions and open the widest horizon to them. Therefore, the more the educational colonies grow, the more boys would be attracted to them by the favourable conditions of the employment offered there.—*The Leader*.

Cooch Behar Jenkins' School.—The annual distribution of prizes to the students of the Jenkins' School came off on the 24th ultimo. His Highness the Maharaja presided and gave away the prizes and made the following remarks:—

The report about the moral conduct of the boys is most satisfactory; teachers as well as boys should ever bear in mind that moral training is an essential element and asset in education, and it is one of the great problems of the day how best to combine the two. It is most gratifying to hear how successful the school has been at games. For I personally consider that no education is complete without healthy out-door recreation. By this I do not wish to suggest that you students should pay more attention to the bat and ball than to the book, nor let the one interfere with the other, but it is most important that your body should travel apace with your mind in order that the two should combine for mutual support.

THE PUNJAB.

Education in the Punjab.—The *Punjabee* says that a Conference of Principals of Lahore Colleges and Professors teaching Degree Honours and post-graduate classes was held on the 15th instant to discuss the feasibility of devising a programme for starting intercollegiate work from the ensuing session. The Conference met at the suggestion of the Syndicate and after some discussion a number of Sub-Committees consisting of Professors in different subjects were formed to discuss details and frame a working scheme.

MYSORE.

State Life Insurance Scheme.—With a view to enable teachers of aided schools to make some provision after retirement for themselves and their families, the Mysore Government have decided to throw open the benefits of the *State Life Insurance Scheme* to the men subject to the acceptance of the following conditions on their behalf by the governing body of the aided institution in which each is employed:—(1) that the institution

concerned undertake to withhold the premia due every month out of the pay of such of the teacher in their staff as draw Rs. 10 and upwards and pay the amount into local Government Treasuries before a fixed date; (2) that insurance in the State Insurance Scheme be held compulsory in the case of all future employees entertained by them from 1st July 1914 to the same extent and subject to the same conditions in regard to the observance of rules for the State Life Insurance as in Government Service; and (3) that insurance in the case of existing teachers not debarred by age-limit under the Insurance Rules be considered optional, such option to be exercised before the end of December 1914. The benefits thus given will, no doubt, be of substantial benefit to members of the teaching profession whose thanks are due to the Government of His Highness the Maharaja for the same.

Foreign Notes.

GREAT BRITAIN.

Commenting on the visit to England of Mr. Ramanujam, the mathematical genius, and the training he is to undergo in Cambridge the *Westminster Gazette* writes:—A good deal of interest is being shown in the coming appearance at Cambridge of a young Indian who is reported to be a perfect genius in the solution of the most abstruse of mathematical problems. His results appear to be obtained by insight rather than by any trained method, and he is being sent to Cambridge by the Indian Government to see if the trained method can be developed in him under

the instruction of the best mathematicians of the chief British Mathematical University. It is entirely an experiment, something quite out of the usual run of University courses. The mathematical marvel is coming up to Trinity in a few days' time as an advanced student, with a Government scholarship which will be supplemented by a college foundation scholarship. He will spend two years at Newton College under the mentorship of two members of the society who have a world-wide mathematical reputation. As an advanced student he will not be subjected to the restrictions of an ordinary undergraduate, and it is improbable that he will present himself for a degree. His importation into Cambridge is of a character which in another sphere would be termed "sporting." Were the old struggle going on for the production of the Senior Wrangler, Trinity might be suspected of having an ulterior object in view in welcoming this Oriental genius, but collegiate rivalry in this respect is a thing of the past, and the great foundation is receiving him purely from a desire to see if it can aid nature in the cultivation of the young man's singular gift.

Mrs. Sarojini Naidu has been elected a Fellow of the Royal Society of Literature. Mrs. Naidu is not the first Indian to be awarded this modest honour, says *India*. At least two of her countrymen—the late Mr. N. N. Ghose of the *Indian Nation* and Mr. Abdul Ali, at one time Secretary of the Moslem Institute, Calcutta—have preceded her. But she is, of course, the first Indian woman to receive the distinction and, moreover, one of a very small group of women Fellows of the Society.

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The Educational Review.

The Honourable Mr. Justice J. J. Heaton, I.C.S., in his rather discursive address to the Convocation of the Bombay University discussed the question—how far the University ideal has been, if at all, realized in Bombay. So far the University has meant but “the Registrar and his permanent staff,” “the Syndicate or Managing Committee,” and “the Senate.....given to too much talk and too little achievement.” This organization has so far promoted an education tending “to produce intellectual arrogance grossly disproportionate to mental acquirement” and “to the development of the memory at the expense of the other intellectual powers.” As the chief reason for this unsatisfactory state of affairs Mr. Heaton points to the fact that “the University at present is too much a collection of inarticulated parts, it is wanting in the vitality of a mature organism and in power of concentration.” In other words the Senate as a corporate body has no influence on the colleges and the colleges that ought really to form the articulate parts of the University have no share in the work of guiding the progress of University affairs. The Government, in most cases represented by the Director of Public Instruction, and sometimes lawyers who wield influence because they lead the opposition in the Legislative Councils, influence the course of University policy, but of real academical control, the guidance by educational experts, the men who are Principals of Colleges and Professors of special subjects, there is absolutely none. An Under-Secretary of Government or a popular pleader has more influence than all the Professors and Lecturers of all the colleges

combined. This is one great reason why our Universities are so in name and not in reality. An English University is, to its alumnus, a set of noble buildings wherein reside ‘men of plain living and high thinking,’ in whose company he has spent the most impressionable part of his life, most profitably to himself; its well-stocked library, well-furnished laboratory, play-grounds, etc., are golden memories which accompany him through life; its rulers are Dons whose vast knowledge has impressed his imagination, and whose noble lives have helped to mould his character. The University further means social intercourse with his peers in intellect and the benefit which accrues from such intercourse. But what is an Indian University? A Senate House in which work the Registrar’s clerks and wherein a dread examination ordeal was gone through and no more!

The University, again, ought to be a place where not only “existing knowledge” has to be acquired but the bounds of knowledge ever enlarged. “We must make it our business to promote the extension of knowledge.There is an enormous amount of enquiry, of research, which must be done in India, that cannot be done elsewhere.” But the part that Indian Universities take in this kind of work “is in truth almost negligible.” One of the reasons for this discreditable state of affairs is want of funds. “Finances are perhaps our greatest difficulty.” But the most important cause of the sterility of our Universities is that they are entirely lacking in independence. All “growth must of necessity be vitalized from within. Like all living things it [the University] will answer to stimulus from without, but whatever the external stimulus it must be sterile unless there is an answering vitality within. This

principle must regulate the relations between the Government and the University. The connection of the Government is essential, but it is an external connection. The University must live in virtue of its own vitality, not as a department of the Government.” Mr. Heaton’s Address* is a mild plea for the liberation of Universities from Government control.

Sir Asutosh Mukherji took up the same subject of University Independence for his Convocation Address†—the last he delivered as Vice-Chancellor of the Calcutta University. For obvious reasons, Sir Asutosh could speak much more overtly than the Bombay Vice-Chancellor. “The question which agitates my mind is that of the degree and measure of ultimate independent authority which a corporation such as the University of Calcutta is entitled to claim. It is well understood that an Indian University, which is the trustee and guardian of great public interests, is ultimately accountable for all its measures to Government, whether the Government be Provincial or Supreme. The Universities rest on legislative enactments, emanating from the supreme authority; their functions and duties are defined thereby and they may legitimately be held accountable to the supreme authority for the way in which they exercise their functions and discharge their duties.” We do not quite see the logic of this admission. It is historically true that the Indian Universities were created by legislative enactment. But we cannot admit that this fact, in any way, affects the argument. The worth of a University is determined not by legislative

sanctions but by the kind of work it does, by the excellence of the culture it spreads.

The only control Government may have over University affairs is to see that it fosters among its alumni, loyalty to established political authority; otherwise the University ought to be left to grow according to its own ideals. But our Indian Universities are yet under leading strings. “For,” says Sir Asutosh, “I do not hesitate to say so,—there have been, in the course of the last three years, instances, by no means few, in which the action of the University has been interfered with in a way which I cannot characterize otherwise than as needless. Let us consider for a moment the lines on which the University is constituted. Ultimate authority in all University matters rests with the Senate. The Senate of the Calcutta University consists of one hundred Ordinary Fellows of whom eighty are directly nominated by His Excellency the Chancellor. It may be assumed that care and judgment is exercised in the selection of men who are fully fit for their important position, men who have given general proof of capacity and character, and who moreover are specially interested in, or acquainted with, the various aspects and problems of education in its different grades. Of the remaining twenty members of the Senate ten are directly elected by the Registered Graduates and ten by the Faculties; and we may hence accurately state that the Senate is practically, that is, to the extent of ninety per cent., a body of educational experts nominated by Government. The Syndicate, again, the Faculties, the Boards of Studies, are essentially Special Committees elected by Members of the Senate mainly from amongst themselves, under definite rules sanctioned by the Government. The Vice-

* The full address of Mr. Justice Heaton appeared in the April number of this Journal.

† Reprinted in full elsewhere in this number.

Chancellor, the business head of the University is directly nominated by Government, and every important measure proposed by the Syndicate requires the sanction of the Senate which, as I have said, consists almost exclusively of nominees of Government. An evident corollary of the constitution of the University thus shortly characterized, appears to me to be that the University is a corporation, 'a priori' entitled to all confidence on the part of action within its own sphere, a sphere quite sufficiently limited *ab initio* by University Acts and Regulations, which lay down with great rigour the general lines on which the University has to be managed. But is such independence practically allowed? Far from it! To realize the full significance of Sir Asutosh Mukherji's complaint that the Government is unwilling to allow any independence to the University, we must remember that he was made Vice-Chancellor for the purpose of carrying out the provisions of Lord Curzon's Indian Universities Act and that he loyally did so, notwithstanding he thereby incurred much unpopularity among his countrymen. If a civilian Judge like Mr. Heaton and an Indian Judge like Sir Asutosh, acknowledged on all hands to be the most strenuous, the most enthusiastic and the most successful of the Vice-Chancellors of our generation, should both plead for the necessity of freeing the University from Government control, we may safely infer that things are in a bad way and that Government too often exercises its autocratic power to the detriment of the free development of the Indian Universities.

Sir Asutosh, besides pleading so warmly for the independence of the Universities, reviewed the history of the Calcutta University during the last ten years—a period of "re-

organization, reform, revolution;" he had to pilot the University through storm and stress, "to challenge opposition, to hurt the feelings possibly of the best of friends, to incur the risk of having his motives and aims misconceived and misinterpreted, to attack what are called vested interests and traditional privileges." While other Vice-Chancellors merely presided over meetings and let their University affairs muddle on, Sir Asutosh identified himself with the work, passed eight "years of unremittent struggle" and faced "difficulties and obstacles" which "kept springing up like the heads of the Hydra, each head armed with sharp and often venomous fangs." He, never spared himself during all this time; "for years now, every hour, every minute, I could spare from other unavoidable duties, ... have been devoted by me to University work. Plans and schemes to heighten the efficiency of the University have been the subject of my day dreams into which even a busy man lapses from time to time; they have haunted me in the hours of nightly rest. To University concerns I have sacrificed all chances of study and research, possibly to some extent, the interests of family and friends, and certainly, I regret to say, a good part of my health and vitality." The result of this noble work nobly done is this:—Ten years ago, the Calcutta University was first in India only in point of numbers; in point of efficiency Madras and Bombay were far ahead. But now the Calcutta University has become the premier one in efficiency as in numbers, in intensive as in extensive work. In the actualization of the University ideal it surpasses the other Indian Universities. It has provided a staff of real and not nominal University professors; secured the services of most eminent men as University Readers;

given stimulus to research such as no other Indian University has done or can do for a long time to come; and, above all, established a College of Science, staffed with Indian Professors and filled with Indian research students, such that the Calcutta University at least, among the Universities of India, might claim to rival in efficiency those of Europe and America. Thus has the appointment of an enthusiastic, patriotic and cultured Indian as the Vice-Chancellor of an Indian University proved an object-lesson to the various Provincial Governments of India and justified the faith that is in us that Indian hands alone can guide the bark of Indian progress on to victory. It is a pity that compared with Calcutta other Indian Universities have been but marking time.

The report on public instruction in Mysore for 1912-13 notes rapid progress in several directions, chiefly on account of the opening of Government Schools from the special grant of one lakh of Rupees granted for the expansion of primary education. The one regrettable characteristic of the year's work is the diminution in the number and strength of private institutions; since no Government can afford to provide all the schools needed for the population under its control, and education, more than any other thing, depends for its growth on private effort, it is a pity that the Mysore Government has allowed private efforts to languish thus. The one outstanding feature of the year in the sphere of Secondary education is the introduction of the scheme for the award of the Secondary School Leaving Certificate. This is, in evident imitation of the Madras scheme, but whereas in Madras

the principle of drawing the imaginary line separating the passes from the failures has, at least till now, (whatever may take place in the near future, under the guidance of our new D. P. I.), been kept out of the scheme, the Mysore scheme is only the old Matriculation writ large. The progress of Primary education is marked by the increase of public Primary schools by 91, the decrease of private institutions by 68, the net result being by no means creditable to the progressive State which Mysore claims to be. The only satisfactory feature of the year's educational operations is the inauguration of a comprehensive scheme for the development of industrial and commercial education, part of which was ordered to be carried out at once—the part being the amalgamation of the existing Industrial and Engineering Schools of Mysore into the Chamendra Technical Institute and the opening of a Mechanical Engineering School and a Commercial School at Bangalore, technical education, like general education, being otherwise at a standstill. We cannot, therefore, share, with the Mysore Government, "their appreciation of the enthusiasm and energy" of the officers of the Mysore Educational Department during the year under report. This is perhaps partly due to the "uncertain tenure in the Department" which the Inspector-General of Education refers to. Before we close this brief review of a not over-exciting report of educational activity, we feel bound to invite the attention of the Madras Educational Department to the useful work of Village School Committees in Mysore. "They were not only helpful in bringing to the notice of the Inspecting officers cases of unauthorized absence of schoolmasters and other irregularities in the school"—this is

perhaps a small matter—"but in several cases, they took active steps to repair school houses and to collect funds for providing new buildings in their villages. Some of the Sowcar members in the districts of Bangalore, Kolar and Mysore either built new decent school-houses at their own cost or contributed liberally towards their erection." In Madras, the Educational Department has so far resisted all attempts at the formation of Village School Committees; their theory has been that such committees will do more harm than good, will hamper the Inspector of Schools and his subordinate staff in their work. There is nothing to prove that this is anything but an unreasonable fear. We have every confidence in the intelligence of the richer villagers and in their desire to get their children educated, so much so, they will prove an efficient aid to the proper growth of village schools. One of the members of the Madras Government was an enthusiastic advocate of Village School Committees before his elevation to his present exalted office and we hope he will use his influence and initiate a scheme by which the super-abundant energy of our village population can be to some extent utilized for the educational amelioration of our villages.

We have on more than one occasion noted that in the matter of efficient Primary and Secondary education, the Punjab now beats all other provinces of India and the report, under review, is further evidence of the truth of this remark. During the quinquennium 1906-7 to 1911-12, the total expenditure on education rose from nearly 52 lakhs to more than 68½ lakhs, the average yearly increase being 3½ lakhs; but

in the year under report it was 84½ lakhs or 15½ lakhs more than in the previous year. Of the increased expenditure, over 9 lakhs was devoted to new buildings and extensions, towards which Government provided 6¼ lakhs, district funds nearly 2 lakhs and private sources somewhat more than one lakh, the last being a very satisfactory feature. Public institutions increased by 445 and private schools by 561. The latter fact is chiefly due to the patriotism of the Sikhs and the Arya Samaj. In the public (primary) institutions, progress has been sought to be attained by improving the pay and prospects of teachers. In this matter, Punjab has shown itself more enlightened than the rest of India. "Graded scales of salaries from Rs. 12 to Rs. 30 per month are being generally introduced and teachers have the benefits of a Provident Fund and the chance of postal allowances. As a result the teacher's calling has become popular and there is no longer a dearth of recruits." How this contrasts with the 10 Rs.—the princely salary which the Primary school-master in Madras or Mysore gets! Great attention is being paid to the training of teachers—so much so that the Central Training College being over-full, a scheme is on foot for starting a junior Training College at Jullundur, whereas in Madras, the junior Training College of Rajahmundry was abolished some time ago, for no discoverable reason. A special feature of the Training College is the existence of "a specialist, Mr. Buchanan, to direct and supervise manual training." Hence it is reported that "the introduction of educational handicraft...has undoubtedly made school-work more attractive to the pupils." Another special feature of Punjab education is the arrangement in several schools for the medical examination

of pupils. In one Board School a small fee, too, is paid by the pupils for medical inspection. The sample tables showing the results of medical inspection are interesting reading, such as one does not meet with in Inspection reports.

While compulsory primary education has been declared by the responsible administrators of the land as an impossible ideal here, in England attempts are being made to extend the sphere of compulsory education. At present, according to English law, a child can normally leave school, the moment he is fourteen years of age. There are well-equipped continuation classes for those who desire a continuation of their education after they leave school, but the juvenile students that attend the evening classes of the continuation-school type do not make up more than 13 per cent. of the population between the ages of fourteen and seventeen, after making allowance for those still at Elementary and Secondary Schools. Some enlightened employers of labour attempt to remedy this by counting attendance at continuation classes under working hours. Thus apprentices in dockyards have to attend school for twelve hours a week, the Admiralty giving the apprentices seven and a half of these hours and paying for this time as if it were spent in the workshop and requiring the remaining periods to be taken from the boys' free time. The Education Committee of the British Science Guild has embodied this principle in their recommendations which run as follows:—

"(1) Local education authorities should be required to make provision for the attendance up to seventeen years of age at suitably

equipped continuation schools of all young persons above the age of fourteen years within their respective areas who are not otherwise receiving suitable education. In these schools, particular attention should be given to the continuance of manual and physical training commenced in the elementary schools, together with instruction having some relation to the occupations of the pupils.

(2) Employers should co-operate with local education authorities with a view of securing the attendance at continuation schools for at least six hours weekly during forty weeks a year of all young persons in their regular employment under seventeen years of age. As a practicable means of ensuring such attendance, it is suggested that the following conditions should be observed:—

(i) It should be illegal to employ any young person under seventeen years of age who is not in regular attendance at continuation classes for at least six hours weekly unless reasonable cause for absence be assigned.

(ii) In order to avoid undue strain upon young persons, after working the usual hours during the day, employers should grant them at least three hours a week out of ordinary working hours for the purpose of attendance at continuation classes. It would, however, be most desirable, where possible, for employers to grant the whole six hours during the working day. Many young people would undoubtedly add evening hours of attendance actuated by the desire for self-improvement.

(iii) The education authority should notify employers of young persons in their employment who are not attending day or evening continuation classes for at least six hours weekly, in order that the employers may take the necessary steps to ensure attendance at such classes." After reading this, one realizes how primitive is educational organization in India, notwithstanding so many self-gratulatory reports about it.

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SOME DESIRABLE CHANGES IN THE SECONDARY SCHOOL MATHEMATICS CURRICULUM.*

THE title of my paper this evening may produce in the minds of some, if not all of you, the impression that, inasmuch as the word 'desirable' must necessarily have reference to my own personal views on the matter, I am presumptuous enough to try to force my opinions on others. There are, no doubt, many gentlemen in the educational world, who can claim greater authority for their pronouncements, on the ground of their having been, for a large number of years,

* A paper read before the Teachers' Association of the Teachers' College, Saidapet, by K. S. Patrachari, M.A., L.T.

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either teachers or examiners of High School pupils. Perhaps these gentlemen have not yet come forward with any expression of opinion on this subject, because they think that the Mathematics Curriculum recast so recently as three or four years back has not yet had sufficient time to be tried in our schools for anybody to be able to judge of how it has worked. But, occupying the position which I now hold, as the individual in charge of the Mathematics teaching of what is, or at any rate, is intended to be the model High School in the Presidency, I cannot but feel the necessity of examining how far the recast curriculum is an improvement upon the one which it superseded, or how far the correlation between the different branches of Elementary Mathematics, which, I believe, was one of the avowed objects of the reformers, has been successfully carried out. Into this second question, in spite of its great importance, I do not propose to enter, except incidentally, where I have to refer to it in connection with any changes I may suggest in the general curriculum. Moreover this question of correlation is more connected with methods of teaching, than with the curriculum, itself. I therefore wish, before I deal with the subject, you all clearly to understand that it is only due to a sincere conviction on my part that certain changes are desirable,

that I am here this evening, in response to the invitation of your Secretary, to read a paper on the subject. I may add, however, that I have the weight of distinguished authorities on my side to support my contentions.

2. So far as Mathematics is concerned, the S. S. L. C. Scheme introduced the new syllabus for its public examination in the place of the old Matriculation one, because it was found that the latter had been framed (without any regard to the differences in the mathematical capabilities of different candidates, and accordingly the scheme bifurcated mathematical studies, providing certain subjects grouped under the name of Elementary Mathematics to be brought up compulsorily by all the candidates, and dividing up other relatively advanced matter into three groups, which a candidate is at liberty to bring up or not. This bifurcation has presumably been made from a consideration of the criteria as to what portions of Elementary Mathematics (I use the term in the ordinary extended sense) ought to find a place in a system of liberal education, and as to what must properly be carried over to be taken up by candidates whose subsequent scholastic or professional career has much to do with mathematics. Agreeing, therefore, with the reason for the bifurcation, one has still to examine whether subjects have been grouped properly or whether there is room for improvement.

3 Taking up, then, the portions prescribed under Elementary Mathematics, we find much of arithmetic, a little of algebra, and a great deal of experimental geometry with not even a little of deductive or formal geometry. Of course, it is not possible or desirable to strictly define the limits of the portions to be taught in each subject, but at

the same time, one is bound to feel that the syllabus issued by the Department can be a little less vague. To cite an instance, the phrase 'simple and easy problems' occurs under some heading: but it is open to question whether any two people will regard a particular problem as simple or easy—it all depends on so many conditions. It would be better to specify in such cases certain definite types of problems, or rather, to specify what exactly will not be wanted by examiners. I must really be excused in this connection, for implying that it is the examiner's point of view that is to decide the syllabus, for in spite of the fact that the scheme draws the attention of teachers to the relatively greater importance to be attached to school-work as compared with the results of the public examination, still it is an open secret that school teaching is still swayed to a considerable extent by the public examination, as is evidenced by the way in which the subjects in Group B are handled in certain schools. To give something more definite than the syllabus prescribed in the S. S. L. C. scheme, while at the same time leaving some discretion to individual teachers, this college has been issuing bulletins which are supplied to every High School teacher of mathematics. But so long as the members of the S. S. L. C. Board do not give their opinions on these bulletins, or invite those of others interested in mathematics teaching, there is no saying how far these bulletins will be adopted in any school. I was told by a teacher of a reputed High School in the Presidency that the copies of the mathematics bulletins sent to his school were preserved in the school museum, and not allowed to be used by the mathematics teacher. One suggestion, then, is that the Board take into its confidence

some of the teachers of mathematics and in consultation with them, make arrangements for a detailed syllabus in the subjects.

4. As regards Arithmetic, (I can but refer only to the syllabus given by the Board), Compound interest, 'true' Discount and Stocks seem to be not necessary to a system of liberal education. The present tendency seems to be to introduce as much of commercial arithmetic as possible, on the ground that problems in that part of the subject are 'practical,' as distinguished from problems, complex and intricate, which have no relation to the necessities of daily life. With regard to this tendency I cannot do better than quote the following remarks from an American report:—

"If commercial arithmetic is taught as it is taught now, the pupil may be able to state in brief sentences the first principles of commercial business. He may also, after much conjecturing, be able to solve many questions in banking, exchange, insurance, etc. But until he is brought into actual contact with the business itself, he can form no clear conception of what it all means, or what are the uses or applications of the problems he is solving. On the other hand when he is once brought face to face with business as an actuality: when for the first time he becomes a depositor in a savings bank, or a purchaser of shares in a joint stock concern, he will find all the arithmetic necessary for his purposes to be interest and percentage. The conceptions he vainly endeavoured to master by recitation from a text-book take their places in his mind with hardly the necessity of an effort on his part.

"To the objection that all these give mental discipline even though the results are for-

gotten, discipline like this is inferior to that gained from a more useful class of exercises and bears the same relation to a really improving discipline that lifting exercises in an ill-ventilated room bear to games in the open air." But the all important reason why these could be omitted and which alone is quite sufficient to justify their omission is that they can very well make room for more important topics which do not now find a place in the curriculum.

A very serious omission in the Geometry portion of the Elementary Mathematics Curriculum is the entire absence of demonstrative or formal geometry. The tacit assumption made by some people that Geometry is taught on account of its practical utility is open to dispute. It is included in the school curriculum, according to the correct view, chiefly in order to develop logical and mathematical ability. "Of course in the early training of the pupil it is scientifically unsound and practically hurtful to emphasise the deductive element. It is now generally recognised that it is in accordance with true scientific method to keep the purely deductive element in the background so far as the early training in mathematics is concerned, and by so doing the general methods characteristic of scientific procedure are more fully illustrated. This recognition, however, does not imply that the characteristically deductive side of a mathematical training is to be neglected; it means rather that deduction, which is surely a scientific method, will be used with a fuller comprehension of its place and even of its necessity. The time and manner of the passage to deduction are not to be easily decided; much depends upon the pupil and it is one of the hardest tasks of the teacher to determine the

appropriate correlation of methods. Induction is essential as an instrument of research, but deduction is also essential to the systematic development of mathematical science, and no training in mathematics can be considered satisfactory that does not show the complete process by which mathematical knowledge advances from the stage of observation to that of a science in which deduction plays the principal part in the co-ordination of its contents.* From this extract it is clear that geometrical teaching is of no use if formal geometry is altogether omitted. To a certain extent, the newly inaugurated reforms in the teaching of Euclid are responsible for this state of affairs. According to Professor G. H. Bryan, one of the leading mathematicians of the day, the defects of the old methods of teaching Euclid arose largely from the facts, (1) that a boy who could not solve riders was thrown back on learning the book work more or less mechanically (2) he acquired no grasp of its practical meaning. These defects have been remedied by the introduction of exercises in constructive geometry to be performed with drawing instruments and by preliminary work in experimental geometry, in which geometrical truths are tested by trial and observation. On the other hand, the reforms do not appear to have done unmixed good. Mr. W. P. Workman, author of many excellent works in Secondary School Mathematics, says: "The results of the reform movement in Geometry seem to me to have been as yet deplorable. We have carried everything to extremes. I am convinced that in its logical discipline, the subject has greatly lost in value. Geometry seems to

*G. A. Gibson, Professor of Mathematics, Glasgow University.

most school-boys to be represented by a fiddling about with ruler and compasses and they appear to be almost satisfied with empirical results."

While thus formal geometry finds no place in the Elementary Mathematics curriculum, how can we reasonably expect boys who take up geometry as an optional subject to suddenly develop a logical sense in Geometry? An S. S. L. C. examiner complains about the answers in C group geometry:—"The distinction between practical verification and mathematical proof was sometimes not recognised. Finding by actual measurement that the opposite sides and angles of a parallelogram are equal was by many regarded as mathematical proof of the equality. This shows an imperfect understanding of what constitutes mathematical proof and an unintelligent mixing up of inductive and deductive processes." The examiner, if we presume he was also a member of the S. S. L. C. Board at the time, has no reason to make the complaint.

Another deplorable omission is with regard to the subject of logarithms. It is really sickening to find a student who is certified as having completed the school course in mathematics, innocent of even the slightest knowledge of logarithms. While he is expected to know the properties of the 'nine points circle' and to be able to solve all sorts of unpractical problems in arithmetic, he is allowed to go away without any acquaintance with one of the most beautiful pieces of machinery for depriving involved multiplications and divisions of their extreme tediousness. And this subject has, apart from its utility, the additional recommendation of being taken to by even young boys with great interest. It is well-known that in English, Continental

and American schools, this subject is taught early enough. In fact, in some, even the construction and use of the slide rule are taught. But we may regard this last as necessary only for students taking up a technical course; however, it is quite essential that a pupil who has completed his school course should know as much of logarithms as he will be able to apply intelligently.

Going into another subject, namely, elementary solid geometry, it seems desirable that, though any cut-and-dry theorems should be avoided, pupils be made to think in three dimensions and not confine their theory or their practice to only questions in two dimensions. Perhaps no explicit reference to this subject is necessary in a syllabus, and in fact it is not found in that issued by the S. S. L. C. Board. One examiner complains that many pupils were not able to see that in a certain question, a certain locus asked for consisted of a right circular cylinder. This is simply due to the fact that in most schools any encroachment, as many teachers think, into the domain of solid geometry is most carefully avoided. If pupils are early enough familiarised with the application and extension of two dimension results to three dimensions, there will not be room for such complaints.

It is hoped that the above remarks will catch the eye of those who are responsible for drawing up the syllabus in Elementary Mathematics for the School Leaving Certificate, and that this will make them examine the various points discussed with a view to a revision of the present curriculum.

THE TEACHING OF PHYSICS IN SECONDARY SCHOOLS.

I.

THE HEURISTIC METHOD.

IN all matters educational it is desirable that a halt should be cried periodically to take stock of what has been achieved, to compare notes with other workers in the field, and to overhaul our methods. The watchman of the signs of the times notes with immense satisfaction the growth of a strong reaction against the time-honoured methods of teaching by demonstration and text-book. The superficial descriptive physics of old, accompanied more or less by a series of detached experiments, has been condemned as unsuitable for beginners. Deductive and didactic methods of instruction, and the attitude of verification or of imitation have alike failed to cultivate a spirit of intelligent enquiry and are slowly giving way to inductive and Socratic methods. The opinion is gaining ground among educators that the pupil should no longer be "spoon-fed," that he should not be an idle spectator and passive recipient, but an active participator in the work conducting researches, making observations, drawing inferences, and writing his own text-book. The teacher's function is held to be that of an experienced guide, to put the pupils on the right track, and, if need be, to supply material. The most prominent of the advocates of this method—the Heuristic, Socratic, or inductive, by whatever name you may choose to call it—is Professor Armstrong, whose papers on the Heuristic method of teaching science, and lectures on scientific method are of great value.

Although the Heuristic method is strictly in conformity with the psychological develop-

ment of thought, it has not proved an unqualified success, partly on account of the zeal of the "Ultra Heurists" who have overdone the method regardless of the actual conditions of class teaching, and to a certain extent for want of skill on the part of its exponents. In any case the results have not come up to expectation and the method has been severely criticised. Nothing, however, is more gratifying than the enthusiasm with which the "war-cry" of the reform party has been caught by teachers of other subjects—Mathematics, Geography, Modern Languages, and latterly even History. The method has "come to stay" and the doctrine of individual inductive experimental research once confined to the teaching of science has been extended to every other subject in the School Curriculum. "Learning by Doing" is the watchword of the day from the Kindergarten right up to post-graduate study. "A plea for individuality" is the cry everywhere. Teachers of Science, whatever their failures or successes in their own line, have every reason to congratulate themselves on having so profoundly influenced the trend of educational opinion and practice.

I shall now proceed to examine briefly the tenets of the new creed and the conditions necessary for its success when applied to instruction in the class-room. A comparison of the grounds of faith of the extremists with the practice obtaining in the schools of England, America and Germany, will reveal to the most casual observer the limitations of the method, and will suggest to the practical teacher important modifications to adapt the method to the "work-a-day" conditions of class-teaching.

The ideal set before us by the reformers is that the pupil shall be an explorer or a

discoverer, making observations, and drawing inferences. He shall *learn* more and be *taught* less. He must not *imitate* but *initiate*. He must suggest his own methods, accept nothing of faith but assign reasons for the faith that is in him. In fine, the pupil must work out his own intellectual salvation and the teacher's function shall be unobtrusively to *inspire* rather than directly to instruct.

From a psychological standpoint the position taken by the new school of thought is quite unimpeachable. "Learning by doing" is in perfect accord with the latest ideas regarding true growth and the principle has no equal in developing truthfulness, self-reliance, sound judgment and mental alertness. The facts of the science will be peculiarly the possession of the child and his efforts in gaining this knowledge will give him an insight into the methods by which others have arrived at the same truth and will eventually foster in him a scientific habit of mind enabling him to approach, examine and interpret natural phenomena in a scientific spirit. This preliminary training in the field of discovery will fit the child in after-life to gain the scientific knowledge he needs more easily than otherwise.

In practice, however, the Heuristic method, as originally conceived and expounded, breaks down, or, if continued, must be a pretence, converting the laboratory into a hot-bed of vice. In the hands of a skilled teacher who had the good fortune to have a single pupil in his charge with indefinite time at his disposal the method might give satisfactory results. But man's life is only three-score years and ten, and the wear and tear of life are often sufficient to shorten it by a whole half. His avocations are too many and his opportunities too few to leave him the time

necessary for original research. Even if he were to spend all available time in independent discovery, it would not be consistent with economy if he ignored the accumulated experience of past generations and began afresh. The progress of the race would come to a stand-still. The most conservative of the reform party should be unwilling to reject what has been achieved by our fore-fathers. The store of facts appropriated by slow plodding research, accepting nothing on trust and blundering all along the way, is painfully small to be worth anything or to compensate for the enormous waste of time and energy in learning them.

The object of all instruction is not only to train children to observe accurately and to reason logically but also to give them a clear knowledge of the fundamentals of the science. We are not concerned here with the student who is likely to proceed to the University for his facts, but with the Secondary School boy who is satisfied with a liberal secondary education. With pupils to whom secondary education is an end in itself we cannot be satisfied with the preliminary training but should give them a fair grounding in the science, a fair "depth and breadth of intellectual reach" in the subject. Too few are the opportunities, granting the desire and the resolution, in later life, to build upon this foundation and to acquire the facts of the science. It is therefore absurd that the boy should take nothing at second-hand but should deduce everything for himself. "All true education" as Professor Sadler has said, "strikes a balance between authority and independent search, a balance for which there are no set rules but which the tact and insight of the true teacher establish afresh for each mind according to its needs, to its

stages of development, and to the circumstances of its works."

The practical teacher who has handled classes of 40 boys of varying capacity and limited resource can alone realise the difficulty of attempting to get boys to *initiate*—themselves to suggest methods of overcoming difficulties or of tackling a new problem. A new system of grouping boys for so-called specialization does not alter their brains, and the difficulties of the teacher in combating mental inertia and in developing mental alertness still exist even with small classes. The practical teacher alone knows how by repeated instructions and questions the pupil must be led to observe facts pertinent to the problem, and what a feat it is for the child, without the expert guidance of the teacher, to see any meaning in the numerical observations before him. *Inference* is perhaps the hardest part of the undertaking, and "the unprompted recognition of the resultant law is either an accident or an inspiration akin to accident." A lucky guess once in a way is not identical with sustained logical thought and our pupils have not "the celestial fire" of a Cavendish or a Faraday.

We must take the world as it is and not as it ought to be. The cramping conditions that spoil our plans must all be allowed for—boys of average ability, poor equipment, the limited time allotted to the subject in the timetable, want of leisure to keep the work at a proper level, and a not over-sympathetic headmaster measuring progress by the pages-a-week standard. The pressure of external examinations is perhaps the most potent factor dominating methods of instruction. The public examination is still believed to test the work of individual pupils, and not, as is really the case, to gauge the work of the

school as a whole in helping the Board to moderate class marks. Educated men, men engaged in education, and even Government, all insist on a percentage of marks scored at the public examination—40 % in English, above the average in C subjects, 35 % in the rest. Progress *must* be made,—tangible results obtained. Marks at the public examination are too important to be subordinated to the development of unceasing inquiry. The theoretical educationist may appreciate the work of the teacher, and the teacher himself may take pride in his own achievement; but is it expedient to sacrifice the prospects of promotion, admission, and appointment “at the altar of the teacher’s personal vanity”? These are in brief the limitations of the Heuristic method.

In passing I may be permitted to remark that the attitude of verification of a result previously known, the practice of keeping didactic instruction ahead of laboratory work, and the imitation of experiments already performed by the teacher are detrimental to the cultivation of good habits of work, observation and thought, as is the divorce of theoretical from practical work.

Exclusive attention paid to practical work results in a “nebulous state of the mind, dispiriting alike to the teacher and the pupil.” Boys are apt to work more with their hands and acquire a certain skill in manipulation, but they are less likely to think about their work to understand its full significance. The danger that threatens laboratory instruction in Secondary Schools at the present day is that in our anxiety to show the pupils exactly *how much* we have been failing to show him *how and why*. We have allowed ourselves to be deluded by false ideas of the pupil’s in-

dependence and originality in science. The teacher’s part behind the lesson “weaving the scattered threads into a fabric of definite pattern and reasonable dimensions” is totally ignored. The motive and object of investigation are lost in the bewildering details of manipulation and the pupils fail to have a firm grasp of the trend of the experiment.

It is therefore conceded by science teachers that the right way of teaching science is by a combination of experiment, discussion, and reading. The *preparation* leading up to the problem, the actual weighing of evidence obtained from the results, the correct appreciation of problems, practical as well as numerical, on the work done, convert a mere series of disconnected experiments into a logical course of instruction and are essential to a just perspective. Hence the importance of *Lectures, Demonstrations, Questions, and Text-books* in a scheme of scientific instruction.

I am using the word *lecture* here very loosely for teaching by exposition, question and answer, apart from my personal conviction that lecturing may be allowed in all stages of instruction as a finishing stroke to give a comprehensive view of the subject. What is a story, if it is not a lecture? But this is only by the way. The purpose of a lecture in the first instance is by a running fire of questions on the previous experiences of the pupil bearing on the problem to introduce the subject. The teacher will now receive suggestions as to the best mode of grappling with the problem, which is stated in perfectly general terms. The controlling principle—the object of investigation—is brought out in bold relief. The pupil’s curiosity is awakened and he is kept in the attitude of discovery. The Euclidean method is scrupulously avoided. As

Professor Armstrong has very happily put it, “There are no headings underlined in red ink, *to prove that black is white*, but a simple statement of the problem without anticipating the outcome of the experiment. The method of attack having been agreed upon and the use of the apparatus explained, the experiment is now made, and the results noted. All indifferent results are accounted for wherever possible. From these results the class is led by careful questions to arrive at a solution of the problem set. The next stage of enquiry consists of verifying the results of the first experiment by a repetition of the same under varying conditions. Thus Heuristic teaching, as understood by the practical teacher, comes, to mean *carefully directed enquiry*.”

Subsequent to this carefully guided research the teacher will correct the defect incidental to experimental work by illustrating clearly fundamental principles and generalisations. He will apply these results and principles to problems not given for solution by trial in the laboratory. He will present a comprehensive view of the subject and to relieve the tedium of his discourse introduce demonstrations—“happily introduced and well-exhibited, striking exhibitions of phenomena and illustrations of principles” not touched by the laboratory work.

The pupil is now in a position to see facts of science in their proper relation, and the text-book becomes a means of further verification, of reference, of supplementing actual experience, and not as something written by persons whose verdict is to be taken as gospel truth.

The reformers denounce vehemently the use of the text-book in all stages of science teaching. I, for one, see no objection to their use in amplification and verification of know-

ledge obtained first hand and not as a guide to the work. Pupils *do* require a book for purposes of revision and for home work. The text-book or the manual of the right type—not the “soul-destroying manuals” and “obnoxious cookery-book-recipe type” of “wretched subterfuges”—concentrates the attention of the pupil, facilitates the work of the teacher, and saves him the trouble of dictating notes which might be found in better form in books. Moreover, a good and representative collection of books gives the teacher an idea of how others have dealt with the subject, and will supply him with useful tips. Not even a catalogue should be despised. Mr. Dunstan of East Ham Technical College says:—

“I quite agree that in the Heuristic paradise no text-book should defile the presence, and further, that in all decent laboratories every boy should be his own author. But from the point of view of one who stands outside the gates of heaven, and for his sins is compelled to pass boys through all sorts of examinations, is all this practicable? No! For the heuristic teaches his thousands and we our tens of thousands. With a class of four I would heurise an I were an Armstrong but with forty!”

THE TEACHING OF PHYSICS IN SECONDARY SCHOOLS.*

IV

SELECTION OF MATERIAL.

A MEMORANDUM.

I beg to invite the attention of Physics Teachers in Secondary Schools to my elabora-

* This is the 4th of a series of monographs on “The Teaching of Physics” and is being published in advance on account of the urgency of the question.

tion* of the S. S. L. C. Physics Scheme which has been published by instalments in the *Madras Educational Review*.

In working out the details I had in view an average secondary school boy who had taken up the subject, and noted down all that he could possibly be taught within the time specified. In other words, the expansion of the scheme represents practically the limits beyond which one may not go in a secondary school without over-taxing the powers of comprehension and assimilation of the pupils.

I have given references to popular textbooks at each stage, and have indicated the scope of the subject by the inclusion, in the syllabus, of suggestive problems involving thought. Numerical problems and questions of a mechanical nature have been carefully eschewed. I have also laid some stress on

* The elaboration is meant to be suggestive and is to be taken for what it may be worth. I am fully alive to the genius of the S. S. L. C. Scheme and should be the first to wish that everything should be reduced to a dead level of mediocrity. Advisedly, I may mention that copies of these syllabuses have been submitted to the scrutiny of Messrs. C. Ransford, J. A. Yates, H. O. Kershaw, K. C. Subrahmanya Iyer, P. T. Srinivasa Iyengar, Rao Bahadur A. C. Prasadartihara Iyer, all of whom have spoken appreciatively of them, Mr. Kershaw, in particular, was pleased to remark as follows:—"I read all you sent me with very great interest and think your syllabuses very good, and your efforts in the interests of science teaching most commendable."

Pray continue in the good work you are carrying on and accept my assurance that you have my cordial gratulation, sympathy and commendation for what you are doing."

I take this opportunity of expressing my heartfelt thanks for the kindness with which they looked through the syllabus.

ingenious devices whether already incorporated in standard books of reference, or found published in recent educational journals.

The scheme originally contemplated by the Board, as I am assured by those responsible for it, was one of three years' specialized work. "The contemplated course was one of three years' work. For some reasons best known to themselves most headmasters have reduced it to a two years' course and then complain of the work to be done. If they would only accept the three years' idea, I think many of these objections would be disposed of automatically."—MR. H. O. KERSHAW, 25-5-13.

From enquiries made I find that in several schools the course is still covered in three years. The new S. S. L. C. form makes provision for entries in Physics as a C subject in Form IV. The Board does not disallow specialization in Form IV (*vide* Proceedings of D. P. I., Dis. No. 4043 of 1911, dated 31-7-1911, on a reference made by the Inspector of Schools, V. Circle). The paragraph dealing with specialization in Circular No. 826, of the Board of Education, London, speaks for itself.

The following extracts from the circular may be of some interest:—

"The requirement as to the inclusion of certain specified subjects in the curriculum does not imply that all students should study each of these subjects throughout their whole school course. As is explained later, the pupils who remain at school long enough to proceed to advanced work will naturally discontinue some subjects in order to give special attention to others."

Even in the middle forms there is room for much elasticity in the apportionment of time

to each of the various subjects. It is often found, for example, that schools give precisely the same amount of time to one subject throughout the whole of their school course. It is probable, however, that much better progress would often be made if in certain parts of the school the pupils were allowed to concentrate on certain subjects while giving correspondingly less attention to others. For instance, where a new language is begun, it may with advantage be studied intensively.

The circular also states that in the case of schools where pupils enter at 10 and leave at about 18 or later, bifurcation may begin in the 14th year, i.e., 4 years before leaving school, i.e. in the III Form. But when boys enter at 12, alternative courses are recommended at the end of the first or second year one leading to the University and the other modified by a vocational bias. Modified specialization is the key-note. The circular allows specialisation in Science, Mathematics, Art, Economics, Singing, Type-writing, where provision is made for the continuance of general education.

In schools taking a three years' course, I would suggest that *Properties of Matter* exclusive of *Mechanics*, *Capillarity*, and *Boyle's Law* be done in Form IV; *Heat* with the harder portions of *Properties of Matter* in Form V; *Light*, *Magnetism*, and *Electricity* in Form VI. It is assumed that not less than four periods a week are assigned to the study of the subject in Forms IV & V, and five periods, if possible, in Form VI—the division of time between the class-room and the laboratory being as 3 single periods in the former to two double periods in the latter, or prefer-

ably two single periods in the former to one double period in the latter.

In many schools, on the other hand, the danger of too early specialization has been recognized, and the course reduced to one of two years' work. Three ways of accomplishing this suggest themselves to me and I commend them to the careful consideration of my readers.

(a) Fundamental measurements of length, area, volume, mass and density, properties of liquids and gases, measurement of temperature and quantity of heat along with the course outlined in Sinclair's Chemistry. "A first year's course," may be done under Elementary Science, widening the course where necessary by the inclusion of Natural Science, be it Botany or Physiology or both (*vide* Course of Instruction in Elementary Science adopted by the Incorporated Association of Head Masters, pp. 414 to 423, Volume 2 of Special Reports on Educational Subjects). The remaining portions, viz., the more advanced topics in *Heat*, *Mechanics*, *Light*, *Magnetism* and *Electricity* may then be studied as a complementary course in Forms V & VI. This adjustment ensures economy of effort, provides a most suitable and satisfactory introduction to the study of Practical Physical Geography, Physics, Chemistry and Mathematics, prevents over-lapping of the B and C Science courses and thus secures better discipline in the Elementary Science classes. This distribution is best adapted to schools where provision is made by the management for practical work in Elementary Science also. I am afraid that such cases are more an exception than a rule.

(b). In the majority of Secondary Schools, whether under public or private management

Elementary Science, from the very circumstances of the case, is being taught by demonstration and text-book. In such institutions it is highly desirable that the course be so restricted that it may be covered in two years, giving at the same time full scope to the development of individuality and a scientific habit of mind. In support of my views I submit that one of the most elementary books on Physics, I mean Sinclair, devotes a year to fundamental measurements, another year to Heat, and a third to Light. As an alternative course to Light, Magnetism and Electricity on the same lines has been brought out by Steel. Again, H. V. S. Shorter has written a very elementary treatise on Practical Physics, Mechanics, Measurement, Heat and Light, extending over two years. I could multiply instances of good modern English (not American) books dealing only with a restricted portion of the subject when the ground is to be covered in two years. I may also be permitted to quote from two well-known authors to show the trend of modern thought on the question:—

"A few years ago, an attempt would have been made in such a book to deal with the phenomena of all the various branches of physical science, but conditions have changed and the 1st and 2nd year's work in Physics is now limited in most Secondary Schools to lessons and experiments on fundamental principles of Measurement, Mechanics, and Heat."—LOWNDS.

"In most schools the chief work in Science consists of fundamental physical measurements and Heat included in Parts I, II, and III of the complete volume. Practical acquaintance with these aspects of Physics is a necessary preliminary or accompaniment to the successful study of Physical and Chemical

Science, and this must be the excuse for the apparently excessive amount of space devoted to them. Light, Sound, Magnetism, and Electricity are regarded now as special subjects to be taken up selectively after a foundation has been laid in physical principles."—GREGORY AND HADLEY.

Messrs. H. O. Kershaw, J. A. Yates, and P. L. Narasu, whom I have consulted, have sent me the following in reply:—

"Hammer away at the very elements, the very elemental considerations until they are thoroughly grasped."—1-6-11. MR. H. O. KERSHAW.

"What is taught or what is not taught are matters of little importance. The main point is a training in scientific method."—26-vi-13. MR. H. O. KERSHAW.

"There is no *having* to do any thing; do what you think possible in the best most educative way. The more practical work, the more observation, the more knowledge and less *information* undigested and misunderstood, the better the education."—27-1-10. MR. J. A. YATES.

"It is different when one of the above subjects is chosen as an optional subject. Here there ought to be greater depth *though the subject may be limited*."—12-7-13. MR. P. L. NARASU.

The views of Professors Sadler, Armstrong, Smith and Hall on the same question will not be out of place:—

"Greater intensity of work within narrower limits but with more training in the power to think, and to find out things, and with less absorption of masses of knowledge is likely to give better results than are an over-loaded curriculum and multiplicity of subjects."—PROF. SADLER.

"A course in which common things are studied and a few problems appropriate to the time and place of teaching are worked out thoroughly is of infinitely greater value than one in which the attempt is made to satisfy any of the syllabuses laid down or the questions set by the singularly incompetent, commercially-minded examining bodies who are now engaged in hampering the efforts of teachers to do their duty."—PROF. ARMSTRONG.

"The chief general rule is that the work should be, as far as possible, intensive rather extensive. A sufficient sample of the whole ground covered by the science must be included, for there are many reasons which make this desirable in the course given in the Secondary School. But it must be remembered that a thorough knowledge of one small portion really implies the ability to master other and difficult portions more rapidly, and is therefore, from every point of view, a thing desirable of attainment."

* * * *

"Laboratory work which resembles a personally conducted glance at many different things, may have a confused sense of many more or less interesting impressions, but it cannot furnish an opportunity for learning Chemistry."

* * * *

"The limit of intensive study is to convert the whole work into research and give up the idea of covering much ground."

* * * *

"There can be no question of the value of a well-ordered outline knowledge of the whole science for the understanding of its parts. But an outline or map of an extensive territory is not an end in itself. The

sketch is chiefly useful to those who know the country first-hand and can fill in from their own experience the detail of many parts and so form a true appreciation of the whole. It is the knowledge of this detail which constitutes a genuine acquaintance with the subject of the outline. It is thus unfortunate if the effort to give a systematic plan of the subject is allowed to occupy the foreground, while the method and detail of the science are suppressed by lack of time."—PROFESSORS SMITH AND HALL.

In the light of these extracts and in view of the *Language* difficulty in Forms IV & V, and the time required to acquire familiarity with a new material of study, a new mode of expression, a new method of approaching the problem by observation and experiment, and a less familiar form of exercise for the reasoning faculties, I should think it necessary that Properties of Matter, Heat and Measurement be made compulsory in the C Course and Light or Magnetism and Electricity prescribed by the S. S. L. C. Board alternately year after year. A simple way of getting over the difficulty is by adjustment of the number of questions in the public Examination Paper—Eight on the portion up to and inclusive of Heat with a choice of six, and four on Light, Magnetism and Electricity with a choice of two. A somewhat similar and most satisfactory distribution of questions was attempted in the Paper set for the Public Examination in March 1911.

(c). Suggestions have also been made that a less detailed treatment of the subject be attempted omitting all the difficult portions. This has the sanction of the practice at the Model School, Saidapet. With due deference to those holding this view, it may be urged that skimming over the subject in French

fashion leads to hasty generalisation and the real value of practical Physics as a mental discipline is lost. Here, again, I may quote from very popular text-books by authors of repute:—

"A well-kept record of laboratory experiments is doubtless an excellent index of progress made, but unless it is supplemented by exercises intended to test the ability to apply the results and conclusions arrived at to the solution of related problems, and the interpretation of wider experience, it may prove to be a vain thing. Such a record is a measure of the kinetic energy of a pupil's laboratory performances but not of the extent to which the energy has been transformed into potential power."—GREGORY AND HADLEY.

"Our own experience in teaching and examining has convinced us that a sound knowledge of any scientific principle is only obtained after many experiments designed to present it under different aspects have been performed and studied. It is for this reason that several exercises are given under each division of the subject. When time permits a student ought to impress upon his mind the principles they exemplify; he should, in fact, regard the exercises as he does the examples in his own mathematical books and work as many of them as he can."—GREGORY AND SIMMONS.

Professor Armstrong, the prophet of the Heuristic creed, also favours this view:—

"To make my meaning clear, let me give an example. Boys from school, as a rule, can define the meaning of density, with some approximation to the truth: they have usually a certain vague idea of how the density of an object may be determined; but ask them to carry out a determination

and they make a most horrible hash of the business. On enquiry it is usually found that they have determined a density at most once or twice; they should have made dozens upon dozens of determinations, so that they may grasp the full meaning of the conception and its applications."

* * * *

"We are often told that we should think imperially—we may well paraphrase the advice, and applying it to our teaching, train our pupils to think round the subject of study, whatever it may be."—PROF. ARMSTRONG.

The inclusion in the scheme of such topics as, relation between temperature and volume of a gas, the Tangent Galvanometer, Metre Bridge, Ohm's Law, Telephone, Vapour pressure, is sufficient proof that the Board expects a somewhat elaborate study of the subject. Considering the time limit of two years pupils cannot be pushed on too fast as long as the Public Examination continues to dominate the course; demonstration will as a consequence have to occupy a primary place.

I am sure that the Board in drawing up the scheme did not make any provision for demonstration work, except, perhaps, in so far as it is only a neater repetition by the teacher of an experiment already performed by the pupils, or of any experiment requiring costly apparatus. The Board did not ignore the teacher's part behind the lesson elucidating and enforcing the laboratory work and dealing with matters not touched upon in that work, nor did it contemplate a series of detached experiments wanting in continuity. Such a comprehensive study of the subject as a whole becomes impossible when the course is reduced to one of two years' work, the ground to be covered remaining the same.

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Teachers who are in favour of a complete but less elaborate course will have to draw up a scheme somewhat on the following lines:—

In preparing the list I have consulted—

(1) The list of problems adopted by the Physics Section of the Michigan School-masters' Club.

(2) The list drawn up by the Committee on Physics for the Science Branch of the National Educational Association, U. S. A.

(3) The definitions of requirements, document No. 2 of Harvard College Entrance Examination Board.

(4) The list adopted by the Model School, Teachers' College, Saidapet.

The subjoined list is supposed to be well within the facilities of an average school. It is assumed that such topics as "The Simple Machines, Water-level, Spirit-level, Braamah Press, Air-Pump, Barometer, Water-Pump, Lift-Pump, Force-Pump, Fire Engine, Syphon Thermometer, Laws of Magnetic attraction and repulsion" are studied in the lower classes—2nd and 3rd Forms (*vide* page of the Madras Educational Rules, Fourth Edition). The course in Measurement of Length, Area, Volume and Density may be done partly in Elementary Science and partly in Elementary Mathematics classes of the 4th Form, reserving, of course, exercises like "the diameter of a capillary tube, calibration of a capillary tube" to the optional Physics Class of the 5th Form.

Form IV:—

1. Indirect method of measuring the diameter of a ball.
2. Measurement of curved lines.
3. Evaluation of π .
4. The diagonal scale,

5. Wedge—thickness of glass tubing.
6. Forward and backward reading Vernier.
7. Construction of slide calipers.
8. Micrometer Screw Gauge.
9. Determination by weighing of the area of a circle in terms of the square on the radius.
10. Connection between the unit of mass and of volume in the Metric System.
11. Comparison by weighing of solids of the same material.
12. The use of the Burette: volume of a drop of water, thickness of a piece of lead-foil, diameter of wire, etc.
13. Other methods of determining volume by displacement.
14. Volume of a soluble powder.
- *15. Measurement of Density, etc., of a regular solid.
16. Density of an irregular solid by displacement.
17. Density of a liquid by the Density bottle.
18. Density of a solid by the Density bottle.
19. Graduation of a measuring flask.
- *20. Calibration of a measuring cylinder.
21. Diameter of a capillary tube.
22. Calibration of a capillary tube.

Form V:—

Mechanics.

1. Relation between tension and extension.
2. Bending proportional to weight.
- **3. Relation between bending weight and dimensions of beam.
4. Parallelogram and Triangle of Forces.
5. Resultant of parallel forces.

6. Experimental determination of C. G., of an irregular figure, and of open frame work.

7. Relation between the time of oscillation and length of pendulum.

8. Relation between the time of oscillation and 1. mass of bob, 2. material of the bob, 3. amplitude of the swing.

9. Indirect determination of the weight of a lever.

10. The inclined-plane, force acting parallel to the plane. Force acting horizontally.

**11. Co-efficient of friction.

**12. Angle of friction.

Hydrostatics.

13. Comparison of the densities of two liquids which do not mix by the method of balancing columns.

14. The density of a liquid which mixes with water by means of U-tube.

15. The principle of Archimedes.

16. Volume of any solid that sinks in water. Weight of unit volume of a substance.

17. Density of a solid that sinks in water.

18. Density of a liquid by the application of the principle of Archimedes.

19. Density of a solid lighter than water by the use of sinker.

*20. Weight of the liquid displaced by a floating body equal to the weight of the body itself.

21. The relative density of a rod of wood by flotation.

22. The relative density of a liquid by floating a rod in it.

Pneumatics.

*23. Air has weight.

*24. Density of Hydrogen and of Carbonic Acid Gas.

25. Hare's Apparatus.

26. Boyle's Law.

Heat.

27. Errors in the fixed points.

28. Co-efficient of linear expansion of a rod.

29. Co-efficient of expansion of a gas at constant pressure.

30. Co-efficient of apparent expansion of a liquid.

31. Water-value of a calorimeter.

32. Specific Heat of a liquid.

33. Specific Heat of a solid.

34. Melting point of paraffin wax.

35. Latent heat of fusion of ice.

36. Latent heat of vaporisation of water.

**37. Vapour pressure method of the determination of the boiling point of a liquid.

38. Determination of dew point.

Form VI :—

1. Measurement of the candle power of a lamp.

2. Pin method of verification of laws of reflection.

3. Position and size of an image in a plane mirror.

**4. Measurement of the angle of a prism.

5. Radius of curvature of a concave mirror any three methods.)

6. Radius of curvature of a convex mirror (any two methods).

*7. The index of refraction of a liquid. (two methods).

8. The index of refraction of glass (two methods).

9. Pin method of tracing deviation by a prism.

10. Focal length of a convex lens (two methods.)

11. Focal length of a concave lens (two methods.)

*12. Astronomical Telescope.

Magnetism.

13. Methods of Magnetisation.

*14. Poles of an induced magnet.

**15. Susceptibility of soft iron greater than that of steel.

**16. Distribution of Magnetism in a bar Magnet.

17. Iron filings—maps specially of the combined field due to the earth's magnetism and a bar-magnet.

18. Magnetisation by means of the earth's field.

19. Measurement of dip.

*20. Magnetic meridian.

Electricity.

*21. Study of local action and of polarisation.

22. Action of an electric current on a magnetic needle.

23. Lines of force due to a current.

*24. Magnetic properties of spiral carrying a current.

25. Comparison of current strengths by means of a tangent Galvanometer.

26. Fall of potential along a wire conveying a current. Comparison of resistances by Metre Bridge.

27. Ohm's Law.

**28. Comparison of E.M.F.'s of cells by Wiedemann's sum and difference method.

**29. Resistance of a cell by Mance's method or of a galvanometer by Thompson's method.

*30. Electrolysis of water and of copper sulphate.

*31. Heating effects of current.

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Many of the experiments in this list may well be finished in a single school period if the work is well planned.

FURTHER SUGGESTIONS FOR OMISSION.

Should this list be found to lay out more laboratory work than the ordinary school system can be expected to include, I would suggest that the problems marked* or **be omitted. Some of the truths in these experiments are almost self-evident or easily perceived and conveniently demonstrated to a whole class at once by a lecture table experiment, and the others too difficult for the average boy. The list would thus be cut short to about 56 experiments exclusive of those on measurement of length, area, and volume. Teachers will very likely find it best to make still further omissions.

I cannot close this memorandum better than by quoting the words of Prof. Armstrong exhorting science teachers to introduce higher ideals into science teaching.

"We, teachers of science, have a great opportunity of showing the way. Let us see to it that we lay our foundations well and truly and that we build thereon only with sound materials; jerry building must be given up; then if Inspectors or Examiners complain of the rate at which the buildings rise, well, with clear conscience, we will tell them: "Go, hang!"

K. S. PARABRAHMAM.

our boys into English scholars or is it our desire to equip them with knowledge to fight the battle of life? An answer to this question gives the key for the complete solution of the problem on hand. Fitch says that 'the main reason for teaching French or German, (I would add any modern language like English) is that the learner may read books and converse in that language and use it as an instrument of thought and communication.' Most of the students that have gone through the S. S. L. C. course drop out at this stage and become clerks in Government service or under merchants or pleaders, etc., etc., for which places a very ordinary knowledge of English is more than sufficient. They will be certainly at a disadvantage in life, if they do not possess definite ideas regarding health, cleanliness, etc., which can be acquired only by a knowledge of the elementary sciences. Further do they not owe a holy duty towards the uneducated members of their own families and others? I believe that every one of us knows fully the condition of a family of 4 or 5 members of whom only one is educated in an English school. He (the boy) practically lives in an alien land in the midst of his own parents, brothers and sisters. He will not be able to explain one word of what he has learnt at school either to the searching and inquisitive questions of a grandmother or the curious enquiries of a younger sister. The only satisfaction which the parents have is the hope that the boy educated in English will in the fullness of time become a Sub-Magistrate or a Tahsildar, without realising at the same time that the dawn of every new day sees their son more and more a stranger to themselves and their beloved. Yet some 'doctors' advance the idea, with all the bluff

and bravado of a great argument, that the largest number of parents are anxious to send their sons to English schools in preference to institutions where English is not taught. There cannot be a greater confusion of ideas or perversity of arguments. It must be understood as only indicating, on the part of parents, an anxiety to give their sons an English education to make them conversant with the English language which has the best market value now and not an aversion for having their sons taught the other subjects in their own vernacular. I emphasise that English should be taught compulsorily but I do not for a moment propound that it should be used in teaching other subjects which can be more easily grasped and digested by boys when taught in the boys' own mother-tongue.

If our idea is to make our boys linguists in English at the expense of other faculties, I would go to the extent of pressing that the teaching of even the Vernacular should be carried on in English as some people are fond of quoting as an argument in their favour, "Is not Sanskrit taught in the University classes in English"? Whoever says that it should be so? The existence of a mistake is no argument or justification for committing another of a more serious nature. Every educationist knows that what is done now is not the best method of producing linguists, even granting that that is the aim of Secondary education. Better and more up-to-date methods of teaching foreign languages, as are employed in Germany, Holland and Belgium should be adopted. If necessary more time should be assigned in the timetable for the teaching of English. This last object is easily secured by teaching the other subjects in the Vernacular, in which case they certainly do not require the time at

present given to them; and the number of hours thus gained might be utilised with advantage for teaching English. Further I am of opinion which may not be contradicted by any experienced teacher, that more ground can be covered in the sciences in the secondary stage, if Vernacular is made the medium of communication, thus equipping the students better for life or for a college career. If people still apprehend that the course suggested will not make the pupils sufficiently good scholars in English for taking up a University course, I would say that an additional year should be given to such students either in the secondary course or in the college course to increase their stock in trade in English. But no sane man would consent to the unnatural method of teaching all subjects in English in the secondary stage.

Some unthinking people have put forward the idea that as the advanced sciences have to be taught in English, it would be better to begin the system early. It is just like saying that, as every human child has to eat when grown up all sorts of dainties and hard food-stuffs, we should begin to feed him on those from his birth. Those who advance this idea either ignore or are ignorant of the fact that most of the advanced text-books in the sciences in English are translations of German or French originals. Why do they not press for the teaching of German or French in Indian schools from the beginning, which would be certainly a more useful, if not a rational, course as the knowledge of those languages is considered now-a-days to be a necessary equipment of every research student or professor. Therefore the arguments of these 'faddists' do not hold water from an educational or rational point of view.

Sometimes it is also urged that the transition from the Vernacular to the English in the College classes would be very difficult. I admit it. If it is so in the college classes where the students are advanced in age, is any argument necessary to show that it is more so in the early stages where the powers of adjustment and accommodation to circumstances are absent in boys between 10-15? Transitions are always difficult to be faced and generally weed out certain elements or individuals unable to withstand the test or endure the strain. Is this weeding out process to begin at 12-15 or at 17-20? Let parents answer this question! Should we not be giving a greater chance of education at least through the Secondary course to a larger number of boys, if we postpone this transition from the Secondary to the University stage, at which the average boy generally develops an outlook on life and knows or is expected to know that his future lies only in his hands, which cannot be certainly expected of a 10 or 12 year old boy. I cannot think of a more inhuman thing than the argument that, as the transition is difficult at the threshold of a College career, it should be thrust to the beginning of the High School course. Is it not putting the cart before the horse?

Girls' education :—I next come to the education of girls which I consider is more important than the education of boys, because they are to be the mothers of the future generation of children and every one of them in the fullness of age is to be the queen of a home shedding lustre, happiness and comfort on the growing generation. If a girl is educated in English which is not her home vernacular, is there any use of all her knowledge and education to her children who

VERNACULARS AS THE MEDIA OF INSTRUCTION.

(BY A TEACHER.)

Amidst the multitude of pronouncements in favour of this important topic of the day from people of various grades of social standing and educational worth, the correspondence from certain quarters comes as a surprise to me and, it must be, to many others interested in the question. I think that no serious attempt has been made by any teacher to tackle the question from a really educational point of view. As one belonging to the Noble Profession that is most directly concerned with the question at issue, I make my humble contribution to the discussion of the subject.

It is a most curious and funny argument to say that 'masses are masses in every country' and that the knowledge prevalent in the 'classes' does not filter down to them whatever be the educational advancement of the country. I am only sorry that those who make such sweeping statements do not view the question with any wide outlook on life and have no sympathetic imagination to pry into this vital question.

At the outset I shall raise a few questions and in the course of answering them, the moment and magnitude of the issue may be brought home to those that take an opposite view.

(1) What is the number of students in the Elementary Schools and their proportion to those of the school-going age and to the whole population?

(2) How many of these come up to the Secondary stage?

(3) How many of those that come up to this stage fall off before they pass the IIIrd Form?

(4) How many of those that pass this stage also complete their S. S. L. C. course?

(5) How many of those that complete their S. S. L. C. enter upon a College course?

The following figures, the latest available from official reports, will give a partial answer:—The total number of scholars in public institutions is 1,362,182 out of a total population of 41,418,930, less than one in forty roughly. Of these

—	Males.	Females.
In Arts Colleges ...	5,491	56
In Secondary schools...	77,581	4,689
In Primary schools ...	889,393	223,835
Percentage to population of school-going age ...	33.1	7.4

The figures showing the percentage of those in Arts Colleges and High Schools to the population of school-going age will work down to much smaller percentages than those shown in the last horizontal column which shows the percentage of the total number under public instruction to population of school-going age. In the case of females it is almost microscopic, as is evident from the above figures.

PRIMARY STAGE.

It is clear that a very large proportion of boys and a still larger of girls do not go beyond the Elementary or Primary stage. Are not these fit to receive scientific ideas, if brought home to them in the proper manner? If we admit of the

desirability of such knowledge to these people, is not vernacular the 'only' medium of instruction?

Science, by which is meant knowledge, is the common heritage of all humanity and the meanest rustic who has the desire for it is entitled to have it. So no body, unless he is extremely perverted, would deny the principle and ignore the Elementary schools from the field of education. Is it not time and often urged that the people of the rural districts do not easily imbibe ideas of sanitation and hygiene and that their ignorance is the chief obstacle in the way of the spread of sanitation? If large masses of people remain in utter ignorance, do not villages become hot-beds of disease and prove a menace to the health of towns which, in such a case cannot be immune from virulent attacks of epidemics, etc.? So in the interests of humanity, scientific education should be begun in the Elementary stage which indirectly establishes that Vernaculars should be the media of instruction.

SECONDARY STAGE.

Then coming to the next stage, the minimum age prescribed for appearing for the Public examination is 15, completed. From the Fourth Form upwards, i.e., from 12—15 every boy has to take compulsorily all his lessons in History, Geography, Physics and Chemistry, Algebra, Geometry, Arithmetic, etc. in English, a foreign language. Is it not a waste of energy and brain power to compel boys of 12—15 to learn their lessons in the various subjects, to the natural difficulties of which are added the difficulties of language if we persist in our irrational methods even after the mistake is discovered? In a History lesson can a teacher of the

IV Form make his chief aim the teaching of the subject, when every idea he has to impart is clothed in a foreign tongue? Will there be no conflict of aims and methods in the lesson? Do not all teachers know that the method should only be conducive to and not destructive of the aim of the lesson? Can that be secured under the method at present adopted? No wonder that most teachers take up the text-book in History and go on explaining sentence after sentence giving the meanings of difficult words and expressions, thus entirely forgetting or throwing into the background the aim and object of the lesson. This remark applies with equal force to other subjects as well. I would like to quote one instance from my experience as a teacher. The expression 'bulk for bulk' which occurs in defining a certain physical principle, proves a veritable bugbear to many students. The idea involved is indeed very simple when brought home to them in their vernacular. If we recognise, as every experienced teacher would do, that scores of such difficulties occur in the course of teaching in English, is that not argument enough to adopt the more rational course, viz., teaching the whole subject in the Vernacular in order to minimise the waste of time and energy and secure a better understanding and assimilation of the knowledge imparted?

Some people have advanced the idea that the linguistic abilities of the boys in English would be greatly lowered, if English is tabooed, as unworthy of being the medium. For my part I am not personally in favour of that opinion; but my reasoning does not suffer even if I concede it for the sake of argument. I ask in seriousness, Is it the end and aim of secondary education to turn out

grow in the home vernacular in which their mother cannot impart any of her learning? Is not home the best of all educational institutions and do not impressions received then last longest? Cannot the danger mentioned above be averted and the mother made the first teacher, if she is herself educated in her own vernacular? Then only she will be a real mother to her children and will be able to communicate her ideas to them. From the figures already quoted in the beginning of the article, we see that it is only a microscopic minority of the girls that come to the secondary stage and the number that comes to the college course is almost infinitesimal. How can we equip the very large percentage of girls that come up to the primary and secondary stage with scientific ideas, if not through the medium of the mother-tongue? Only 56 girls in the whole Presidency have come to the level of the college standard. Are we to say that every girl should come up to the level of these, if she wants scientific instruction, or she should not have it even in small doses in the lower stages? This looks like having a full loaf or none at all. Yet that is what the faddists propose!

Vernacular Journalism:—Lastly I have to say one word on the influence of Vernacular Journalism on the spread of education in a country. In every country it is one of the most powerful educational institutions, though it does its work outside the school room. It does its work before larger audiences; while schools do only to a small section of people. The newspapers are accessible to all those that have a moderate knowledge of their own vernacular. Further a cheap vernacular newspaper is the best and the most effective means of bringing know-

ledge to the very door of those that thirst for it. So knowledge has to go down to the people through this agency. But this presupposes the existence of vernacular literature in the sciences. The best way of offering facilities for its growth under the present conditions of our Presidency is to give it a recognised place in schools.

Text-books:—Sometimes those who pretend to raise practical difficulties raise the bogey of the absence of text-books and the want of teachers to teach in the medium of vernaculars. These objections are petty and as silly as those raised by some people when the first railway was constructed. How could teachers be found when the Universities were first started? Certainly there were no graduates before the existence of Universities and schools. Why was not the starting of schools and Universities given up on this ground? Perhaps these 'practical men' were not there to advise them! The question involved here is simply the law of demand and supply and no fears need be entertained regarding this most simple affair. There were no B. L.'s when the Law Courts were launched into existence. But still the Courts have been established and we have now not any want of lawyers but too many of them. So I dispose off these silly objections which loom large in the imaginations of some people who do not think of what they speak.

Technical words:—Then I come to the question of 'technical words and expressions' in the Vernaculars. The question has been already solved to some extent by the publication of elementary text-books in Telugu in many sciences, by various enterprising firms of the type of the Vignanachandrika Mandal of Madras. A large number of words and

expressions have been coined by Pandits and authors. For my part I do not see any objection for borrowing the 'terminology' of English in case no suitable vernacular words exist. In fact it is the practice prevalent in all countries. All the technical words in English are not of English origin; on the other hand most of them are adaptations from the Continental languages. These technical words always assume the garb of the country in which they take their birth. So, the practice in other advanced countries sanctions the act of borrowing and adapting the 'terminology' of sciences to the needs of any language. But would any body say that instead of borrowing the words, borrow the language itself! Yet it is what our 'faddists' say.

Conclusion:—Therefore it is most futile in my opinion to admit in theory the principle that every one is entitled for acquiring scientific knowledge which is essential for the healthy life of an individual or a nation, and yet deny it in practice to one by placing in one's way the obstacles of learning a foreign language in order to have a taste of that 'knowledge' whose external clothing is not any one privileged language of the world. The best medium for the acquisition of scientific knowledge is one's own mother-tongue and it is the bounden duty of every one of us to provide facilities for it, as we are interested in the educational advancement of our country.

THE PLACE OF PHYSICAL CULTURE IN OUR SCHOOL CURRICULUM.

GYMNASTICS has had its usual one-hour-a-week for years together and none has ever thought of disturbing it. Except with very few exceptions, the gymnastic-instructor is one of the local 'budmashes' who has secured a certificate by an exhibition of his skill at 'pumping' on the parallel bars and a somersault on the horizontal. The twelve to fifteen rupees paid him is in the nature of an allowance; for, invariably he is a photographer or watch-repairer besides. The Headmaster treats him with a familiar contempt, not anyhow with respect. He is always free, except for an hour or two in the mornings or evenings, and, when an inspection is near, he could be seen giving an extra-drill, or helping a few boys to 'somersault' in the rings or vault the horse. He imagines his duty done if he could have a dozen show-boys ready for the inspection who could perform a few neat feats on the bars—not only he, but the ought-to-know-better Inspector and Headmaster are satisfied with it. It is time that our old notions of physical culture were revised.

There seems to be some stir now in this direction in Bombay, where Mr. Wren, the Deputy Director was deputed to the Continent and has brought back some novel ideas of gymnasiums. Physical culture seems to have occupied the prominent place it should, in the Central Hindu College, Benares, for some years past. The Professor of Physical culture there, an enthusiast for Indian exercises, seems to have been hard at work to devise a gymnasium on entirely indigenous lines; where regular daily physical exercise could

be had. In the West, the gymnasium is becoming more and more a public resort in the evenings. The Y. M. C. A.'s in all the principal cities of the world have gymnasiums attached to them and they are made good and regular use of by both the old and the young.

Though we are not progressive enough to keep pace with the advancing West, something must be done and that immediately, to improve the bodies of our youngsters at school. We, as a nation, cannot be said to be virile, and every one must admit the marked physical deterioration of our race, generation after generation. There was a loud controversy when, some years ago, Dr. Mukherjee wrote about 'A dying race' in the Bengalee. But words could not blink facts. A systematic medical inspection of our school-children would reveal the sad truth. Some Parsee Doctors attempted such an examination recently at Bombay and their reports were far from encouraging. Not that our boys are afflicted by this disease or that, not so much a constitutional malady or defect as a functional weakness. Most of our boys are anæmic, and weak in their chests. Our ordinary occupations rather stand in the way of the full development of the chest and some regular, daily physical exercise is needed for its proper development. No apparatus is necessary. Many systems of exercises have been devised, consisting mainly of arm and leg movements and breathing exercises. The necessary exercises could be gone through in a quarter to half an hour every day. This will really help the physical development of the boy and one or two easy, graceful feats on the apparatus is worth practising besides. After a little practice, the whole school might go

through the exercises in the compound (if there be space enough) simultaneously. There ought to be no great difficulty about beginning it; for no costly outlay is necessary nor the fitting up of splendid gymnasiums. The exercises could be gone through daily in the open air and, whenever the weather does not permit it, in the main hall. The necessity of going through a short physical 'drill' every day of our lives cannot be over-estimated and if the school could discipline its boys into that healthy habit, much of the reproach attaching to the modern school-course as a 'waste of years with nothing learnt except to forget,' will disappear.

The details might easily be settled—only some heads of schools and colleges ought to turn their thoughts to this most desirable reform in the school-curriculum. A system of regular daily physical exercises ought to be formulated with a view to its eventual adoption by all the schools of our Province.

G. SANKARAN.

COMMERCIAL EDUCATION.

MANY are the branches of study followed here to the neglect of commerce. In European countries persons with University degrees specialise in it and help others by their knowledge. Here, on the other hand, it is sometimes taken up by those who, by some special circumstances are not allowed to have a full course in a University. The main reason, perhaps, is the want of recognition on the part of the Education Board by the creation of a new Faculty. It is only a question of time when commerce also will claim to be of equal importance with other subjects. The outlook is not

gloomy at any rate. An impetus has been given by the introduction of commercial subjects in Secondary Schools in this Presidency. It need hardly be urged that a scheme of study should also be drawn up for the collegiate course. Time only can do it and the result is awaited with anxious expectation. Commercial education can reach its high water-mark only when cultured persons devote their time to it and guide others properly. It opens up vast fields like other branches of study wherein one can reach the top. It requires persons of more than average intelligence to solve many complex problems arising in the commercial world, leaving, of course, the ordinary routine of every-day business to those of less than average merit. But still, the ambition to rise high and grasp the technique of a particular "business" may make even persons of ordinary calibre exert their best and come to the front. They may, for instance, not rest content with the profession of clerks which they chose at the outset, but by learning all details are fit to be the heads or managers. The future, then, seems to be full of promise and hope. Much can be done if the control of study is vested in the hands of the University and a place of honour given to it by the creation of a new Faculty. In this we are only to be guided by our sister-city which had to pass through severe ordeals before the achievement of its object.

B. S. RAMASWAMI AYYAR.

THE HOME CELEBRATIONS OF THE VICEROY'S BIRTHDAY.

A DAY OF CHILDREN'S FESTIVAL *Par Excellence*.
(REPORT BY THE HON. SECRETARY,
CHILDREN'S MOVEMENT).

That favourite Children's Magazine, the *Vivekachintamani* in its June issue gives a preliminary report of the Viceroy's Birthday celebration, which was *par excellence*, the Day of Children's Festival. It was celebrated in the midst of family surroundings with Anthems, Hymns and civic songs sung by children. The chosen motto of the Journal this month is properly the 'Child's Query' which is a question "of imperial concern to the future of our Empire." The new-born spirit of Renaissance in the confiding simplicity of the child puts the query which runs as follows:—

"Father! I, the Child of ages past, rejected and dejected, come to thee.

"Tell me, Will thou cherish or let me perish? Prithvee!"

It gives a brief resume of the development of the Social Service Institute and the work done in the children's cause during the first year of its existence from 20th June 1913 to 20th June 1914. Beginning with the history of "the institution of the Children's Day" on 20th June 1913, it refers to the Children's *Fete* at Simla on the 18th May last, and the Viceroy's declaration of love for the children which found fitting expression in His Excellency's repeated exclamation "I love to see them." It then goes on to describe the origin of the Children's Movement in Madras, which was due to the children's natural desire to know the meaning of the Children's *Fete* then held under official auspices and what it all was for, and how it was encouraged by the elders and parents who were able to enter into the spirit of the children, and proceeds

to put on record the promises of help and co-operation vouchsafed to that movement. The Report passes on to trace the inception of the idea further back in time to the incident at Harrow which the Viceroy-elect mentioned at the Harrovian's farewell dinner to His Lordship at Savoy Hotel, London, with the Master of Trinity in the chair and Lord Crew among the audience.

The Report further makes a brief reference to the Viceroy's personal intercourse with students and deduces the great lesson of life from the adorable conduct of the Viceroy on the occasion of that deplorable outrage at Delhi. To the Man of Faith all things are possible. And the secret of success lies in the man of faith being able to put himself, of necessity, in-tune-with-the-Infinite, which is in itself a great achievement.

The value of Social Service involving as it does the inevitable study of Social-life with a working knowledge of its laws, as *Sadhana* (or Means of Realization) to know the ultimate principle of Action (which includes Inaction) and to become one with it, is touched upon to show how useful and helpful its practice will be in overcoming the sorrows due to the trials and tribulations of the every-day life. Then come "the Ideals of Social Service" on which the Viceroy rightly laid so much stress as an important factor in the formation of character and the implanting of civic virtues in the young and tender hearts of the student population.

The report of Home-celebrations of the Children's Day Festival of which a touching account and programme follows, shows how these virtues are implanted in the child-heart by the Anthems, Hymns and Civic Songs sung by children to celebrate the Viceroy's Birthday which has become, thanks to the step-motherly solicitude of certain people, a *house' ll* festival and an abiding home influence tending to cultivate the civic consciousness in the child mind. The step-motherly conduct of certain people, has only tended to divert the movement of much of

its artificial, *tamasha*, showy element; but it has more than made up for this loss by the genuine hold it has gained on the children's minds, knitting them closer in bonds of sympathy and helpful co-operation to their parents and elders who naturally understood their healthy activities and sympathised with them more truly than our civic fathers who in their mature and considerate wisdom had thought fit to forget their own initiative and did not think it necessary, though reminded, that they should do anything for the children taking part in the celebration of the Viceroy's Birthday on the 20th. Better late than never. It is hoped that there will be a proper celebration of the Children's Day when the schools reopen and get into working order.

C. V. SWAMINATHAIYAR.

EDUCATION IN THE MAGAZINES. (INDIAN.)

Prof. Arthur Smithells in Sciences in National Life.

Prof. Arthur Smithells, F.R.S., Professor of Chemistry at Leeds University, who came to India under the new scheme for bringing Universities of India into touch with the Universities of Great Britain by sending to work there for a time distinguished leaders in literature and science, delivered three lectures on Science at the Bombay University in March. Prof. Smithells worked for five months in the Punjab University and in his first lecture in Bombay, on the subject of the Place of "Science in National Life," he detailed briefly some of the impressions he had formed and indicated what he thought should be the position of science in the life of a country such as India.

Prof. Smithells, after a few preliminary observations, said:—

Health, after all, is the first consideration. If you have not got health you cannot have a

nation at all. And the direction of science to the subject of public health seems to me to be one of the first calls to which a scientific man should respond. It is possible also to be censorious about the utilitarian application of science in relation to the practical arts. We are often told truly enough that man cannot live by bread alone. At the same time man must have bread among other things. And a man who, like Pastour, could rescue a nation from industrial destruction is surely rendering a magnificent service to the nation to which he belongs. If you want to see science on its more purely material side, you can take the German nation. I should like to tell you about the development of science in Germany. You know, no doubt, that at the present time there is no nation in the world which has developed science so thoroughly, which has applied it so closely to national life as Germany. And this has been a very rapid achievement. At the beginning of the nineteenth century, Germany was not in any way conspicuous in science. The development took place after the first quarter of the nineteenth century had passed. But since that time, it has developed with marvellous rapidity and has produced material results in Germany of the most imposing character. To take one single thing and a striking example of what Germany had done in science—in 1897 Germany imparted natural indigo of the value of six hundred thousand pounds and in 1912 she exported artificial indigo of the value of over two millions, and a good deal of it to India! In Germany there are at the present time probably no less than twenty thousand people being trained in science in the Institutions of University rank as against 2,600 in England; so that whilst the population proportion of the two nations, Germany and England is thirteen to nine, in the highest education the ratios are thirteen to one and half. There are over 4,000 highly trained chemists employed in German industries.

Now I have told you perhaps enough about France and about Germany. I must get back to

my main theme. It is obvious from the examples I have chosen that the highest science such as that of Pasteur and that of Germany pays. It effects great improvement on things that exist and from what exists develops great things that are new. I lay stress on this last qualification for a particular reason. There is a belief which is widespread and to which utterance is sometimes given, that research pure and simple is calculated to produce very great material results.

Lord Carmichael on Marwari Education.

His Excellency presided at the opening of the handsome new buildings of the Shri Vishuddhanda Saraswati Vidyalaya situated in Machuabazaar Street, Calcutta, when he spoke on Marwari Education. His Excellency said:—

I listened with great interest to the story of the foundation and development of your Vidyalaya. It opened in 1901 in another building with a small number of boys on its roll. You now have nearly 900 boys in the school. My colleague, the Hon. Sir William Duke, when telling me that you wished me to open this Vidyalaya, expressed his surprise that education beyond the primary stage was so widely extended amongst your community. You have evidently recognised that success under modern conditions demands each day more and more educational equipment. I have heard of the small Marwari boy, who does arithmetic in his cradle, who treads on his father's heels in the stock exchange, and acquires an astute grasp of the ethics of business while most other boys still know nothing of trade unless it be, perhaps, the exchange of marbles. It is not to be wondered at if innate business capacity, forced into maturity by such a training, has placed the Marwari merchant in the forefront of Calcutta business life. I believe you realise that it is not wise to refuse any weapons to your sons, which may render them more efficient in the struggle for existence, and that you recognise that experience has shown that the business-man cannot afford to despise the train-

ing knowledge which School and University offer. It has been suggested that Marwaris, in spite of their astonishing success in trade, have not yet generally shown the wide outlook and ability to exploit new and unfamiliar fields which are essential to success in high finance. But I hope you will do so some day, and I congratulate you on the fact that your community recognises the value and importance of a good education, and on the practical and businesslike manner in which you are making sure of it.

I see that your Vidyalaya is affiliated in English up to the Matriculation standard, and I look forward to the time when your boys will be able to pass on from this Vidyalaya to the University itself. You have achieved triumphs in business, and I see no reason why the practical genius of your race should not, if given proper opportunities, achieve equal success in the field of science and of scholarship. At present, as your address states, you only aim at "imparting a sound commercial education to fit your boys for the higher trade and commerce of the country." But the time will perhaps come when you may see in education for its own sake, the best means of developing the highest qualities of your race.

(FOREIGN.)

Prof. J. C. Bose on "Plant Autographs and their Revelation."

Prof. J. C. Bose, of Presidency College, Calcutta, gave an evening discourse at the Royal Institution of Great Britain on May 29th in London, on "Plant Autographs and their Revelations," before a distinguished and most appreciative audience. Despite the Whitsuntide holidays there was a large attendance, indicative of the favourable reception in Europe of Prof. Bose's researches. If, he said in the course of his lecture, plants be subjected to blows they respond either by electrical or mechanical movements. The plant *Biophytum* is eight times more sensitive to an electrical current than a human being. By means of the delicate instrument he had invented, called

the Resonant Recorder, he registered the response of a "Mimosa" to excitation. The records show that this plant is awake at midnight, falling asleep only in the early morning, gradually awakening about noon, and remaining in a condition of uniform sensibility all the afternoon. Darkness,—even that occasioned by a passing cloud,—diminishes the response of the plant. Impure air suffocates it,—alcohol produces an unsteady response; too much water makes a plant lethargic. All plants alike are fully sensitive. The "latent period of a Mimosa,—that is, the time-interval between the application of stimulus and its response to excitation is about a nine-hundredth part of a second, or about six times as sluggish as the latent period of a frog. There is an extraordinary parallelism between the effects of poisons on the beat of the human heart and the pulsations of the Indian plant "*Desmodium*," those poisons which assist the beat of the heart by contraction or expansion affecting the plant pulsation in the same way, as in man. So in the plant at the supreme crisis of death, a great contractile spasm takes place throughout the organism. This and other important results Prof. Bose successfully demonstrated by a series of experiments, which left no doubt as to the similarity of responsive actions in plant and animal tissue.

Lord Curzon on "Oriental Studies."

A large and influential meeting was held at the Mansion House under the presidency of the Lord Mayor, in support of the School of Oriental Studies. Lord Curzon, who was one of the important speakers, spoke as follows:—

To know the languages of the East was a great thing, but he ventured to suggest that to know the spirit of the East was a greater. He remembered a phrase that once fell from General Gordon, who said that it was the duty of the Englishman in the East 'to get inside the skin' of the Oriental with whom he was dealing. That

was a very sagacious and pregnant remark. He would not raise the question whether the Eastern man was a different being from the Western man, but undoubtedly there was an atmosphere of the East, and there could be no doubt that the real key to success was a knowledge of the national character of the peoples and their point of view, their religious beliefs, their scruples, their prejudices, perhaps. To teach such knowledge would, he thought, be an important part of the work of this School of Oriental Studies. During the past quarter of a century more than one effort had been made to remedy the state of things in this country to which he had made reference, but none was successful, and they finally dwindled down to the excellent but rather precarious teaching of a small number of Oriental languages in University College and King's College, London. This state of affairs lasted until, in 1906, an influential deputation went to the then Prime Minister, Sir H. Campbell-Bannerman, and made to him a powerful representation of the case. The Prime Minister gave a most sympathetic reply, and the result was the appointment of a Departmental Committee, presided over by Lord Reay, than whom, among the distinguished Englishmen who had served this country in high administrative offices abroad, none on returning home, had devoted himself with greater enthusiasm to the languages, literature, and interests of the East. In 1905 Lord Reay's Committee reported, and that report was the basis of all that had happened since. It recommended the institution of a School of Oriental Studies in London, to be ultimately incorporated in the University of London, and to be reasonably endowed by the Government. The next stage was the discussion in the House of Lords in 1909, a discussion inaugurated by his noble friend, Lord Redesdale, who had placed at the service of Lord Reay's committee his unrivalled knowledge of the peoples of the Far East. Lord Cromer and he (Lord Curzon) incautiously took part in that debate, the consequences of which they little foresaw.

The then Secretary of State for India, Lord Morley, having adopted a favourable attitude, and indicated a willingness to be further squeezed pounced down on Lord Cromer and himself and told them that they were to formulate and organise a scheme for the establishment of the school, to find a site for the building, sketch out a scheme of management, and find the necessary income. The meeting would agree that that was a fairly ambitious and extensive programme. Their Committee had sat ever since, and had seen out four Lords Mayors and two Permanent Under Secretaries for Foreign Affairs.

With regard to the site, their attention was directed to the splendid building of the London Institution in the heart of the city, at Finsbury Circus, which had a magnificent library, large rooms, and a theatre, and was in a quiet position well adapted to study. Lord Curzon appealed for recognition for what was really a great Imperial obligation. He said it was part of the necessary furniture of Empire. There was a gap in our national equipment which ought to be filled, and those who took part in filling it would be rendering a patriotic duty to the Empire and promoting the cause of peace and goodwill among mankind.

THE UNIVERSITIES.

MADRAS UNIVERSITY.

Affiliations.

The Madras Government have sanctioned the affiliation to the University of Madras of the Maharajah's College, Trivandrum, in Branches V—History and Economics—and VII—English Language and Literature—of the B. A. (Honours) Degree courses. They also sanction the alteration in the University Regulations relating to the Degree of Bachelor of Sanitary Science, proposed by the University of Madras.

Under section 21, sub-section (4) of the Indian Universities Act, 1904, the Governor in Council

is pleased to sanction the further affiliation to the University of Madras of the Maharaja's College, Vizianagram, in Group (V)—History and Economics—of the B.A. Degree courses.

Under section 21, sub-section (4) of the Indian Universities Act, 1904, the Governor in Council is pleased to sanction the further affiliation to the University of Madras of the Central College, Bangalore, and the Maharaja's College, Mysore, in Branches (II-A)—Physical Science and (V)—History and Economics, respectively, of the B.A. (Honours) Degree courses.

CALCUTTA UNIVERSITY.

Examination Results.

The number of candidates registered for the Matriculation Examination held in March 1914, was 11,420, of whom 6,856 passed, 4,489 failed and 66 were absent. Of the successful candidates 3,003 were placed in the First Division, 3,202 in the Second and 660 in the Third.

The number of candidates registered for the Intermediate Examination in Arts held in March, 1914, was 5,245, of whom 2,233 passed, 158 passed in special subjects, 2,729 failed and 125 were absent. Of the successful candidates 535 were placed in the First Division, 1,246 in the Second and 452 in the Third.

The number of candidates registered for the Intermediate Examination in Science held in March, 1914, was 969, of whom 607 passed, 346 failed and 12 were absent. Of the successful candidates 348 were placed in the First Division, 218 in the Second and 31 in the Third, while 10 passed in special subjects only.

New Fellows.

Professor Stirling, Dr. D. N. Mullick, Dr. Harinath Ghosh, Dr. Bagchi, and Rai Bahadur K. K. Bannerjee are appointed Ordinary Fellows of the Calcutta University.

L. M. S. Examination.

A meeting of the Senate was held at the Senate House, College Square. The Hon. Dr. Deba Prasad Sarbadhikari, Vice-Chancellor of the University, presided, and there was a fair attendance of Fellows.

The Registrar placed before the Senate the following resolution of the Faculty of Medicine dated the 6th June 1914:—"That the Medical Faculty regret to learn that the Government of India have postponed their decision on the proposal to revive the L. M. S. Examinations of the Calcutta University in the absence of any substitute which will enable the students who failed in the M.B. Examinations to obtain a registrable diploma in India on the completion of their six years' study more especially as the Bengal Medical Registration Act has now been passed."

The consideration of this item was postponed.

Affiliation of Colleges.

The following resolutions were then carried:—(1) That the Hindu Academy, Daulatpur, be affiliated in English, Vernacular Composition in Bengali, Sanskrit, Philosophy, History and Mathematics to the B.A. Pass Standard from the commencement of the Session 1914-15. (2) That the Government of India be moved to sanction the affiliation of the Braja Mohan Institution, Barisal, to the I A Standard in Chemistry with effect from the commencement of the Session 1914-15.

ALLAHABAD UNIVERSITY.

Examination Results.

At the last University examinations of the Allahabad University, 3,904 candidates appeared at the Matriculation examination; 1,911, at the intermediate; 946 at the B. A.; 163 at the B. Sc.; 11 at the M., Sc. (final); 26 at the M. Sc. (previous); 61 at the M. A. (final); 144 at the M. A. (previous); 4 at the Commercial; and 4 at the L. T. Examination. Of these 1,669 have passed in the Matriculation, or about 42%; 842 in the

Intermediate or about 42%; 405 in the B. A. or about 42%; 68 in the B. Sc.; or about 42%; 9 in the M. Sc. (final) or about 81%; 21 in the M. Sc. previous or about 80%; 46 in the M. A. final, or about 75% and 68 in the M. A. previous or about 47%. Only one student passed in the first division in B. A. A lady stands first in the M. A. (final), in English literature, which is indeed very creditable.

The Committee appointed by the Syndicate of the University of Allahabad, for bringing out the results of the examinations in Arts and Science, met at Naini Tal on the 9th instant, but the results were not published there. Formerly the results used to be made public at Naini Tal immediately after the deliberations of the Committee were over, now they are not. Examiners have to wait for two days more and ascertain the results from the Office of the Registrar at Allahabad. It is well known that the interim between the holding of a University examination, and the publication of the result, is one of acute anxiety for most of the candidates. Is there any justification for prolonging this agony? We do not know if the reasons of the change in practice will bear public examination. But we feel strongly that there is no valid reason why the Committee for bringing out results should not meet in Allahabad, and why the results should not be posted up in the Senate Hall immediately after the meeting has been held. This is what is always done in Calcutta, and the premier University there examines more students annually than any other similar institution in the country. The University of Allahabad is notoriously the poorest and yet in some ways it is much more lavish of expenditure than its far richer sisters. We do not believe that tabulators cannot be found in Allahabad. And even if the tabulators, who are paid handsomely, prefer, for their personal convenience, to mingle pleasure with work on the cool heights of the summer capital of the provinces, we do not believe that the results of the tabulation cannot be checked and verified at the

headquarters of the University at Allahabad. Nor do we believe that it is impracticable to appoint a committee for bringing out the results of the various examinations, which should meet in Allahabad. The simple question is whether the present practice does not involve an expenditure of money which can very well be saved. We have already shown that the practice is not at all to be commended from the standpoint of the alumni. From the standpoint of the economist, which we doubt not will commend itself to his Honour the Chancellor, it is high time to institute an enquiry whether every rupee in the University of Allahabad is even now made to go as far as will.—*The Leader*.

TECHNICAL EDUCATION.

LYALLPUR AGRICULTURAL COLLEGE.

A RADICAL change in the courses of study of the Lyallpur Agricultural College will be introduced from the next session which begins in July. It has been found that the educational outfit of the entrance passed students who join the college is not sufficient to enable them to assimilate the highly scientific course hitherto provided for them. To bring about an improvement in this state of affairs, it has been decided to split up the diploma course into two parts of two years each. During the first two years, instruction will mainly be imparted in practical agriculture, with a certain amount of scientific explanation and with general English and Mathematics. It is thought that a two years' course will be sufficient for men to be employed in the lower grades of the agricultural department, and for landowners who wish to improve the cultivation of their own lands. The second two years will be devoted to the scientific study of agriculture, and to chemistry and botany. Those who pass through this second course will only be granted the diploma. They will be qualified for posts in the higher grade of the departments. It will, however, be started when there is a demand

for it. We hope this bifurcation of studies will be found of more practical good.—*The Leader*.

THE AMAR SINGH TECHNICAL INSTITUTION.

The Amar Singh Technical Institution, built in memory of the late Raja Sir Amar Singh, was formally opened at Srinagar on May 29th by Mr. Cobb, Resident in Kashmir, at the request of the Maharaja. The building has been constructed at the cost of Rs. 67,000 including equipment, while Rs. 38,000 has been provided for additional buildings and Rs. 30,000 for maintenance. Mr. Andrews, who has been appointed Principal of the Institute, said that something like 1,500 applications for admission to the college had been received but the majority had to be disappointed. Rai Bahadur Dr. Mitra, the Maharaja and the Resident also made speeches.

STATE TECHNICAL SCHOLARSHIPS.

The Government of India have this year sanctioned the award of ten State Technical Scholarships to the following candidates for a course of training in Europe in the subjects noted against each:—(1) Mr. D. M. Anandaswala, Sizing and Weaving. (2) Mr. P. R. Udawadia, Architecture and Building construction. He will undergo a training for two years in India and then proceed to Europe for a half-year to complete his training. (3) Mr. Upendra Nath Bannerjee, Mechanical Engineering. (4) Mr. O. D'Souza, Electrical Engineering. (5) Mr. Bashir-ud-din Ahmad, Municipal and Sanitary Engineering. (6) Mr. Arjan Dass, Textile Industry. (7) Mr. W. Sorby, Mechanical and Electrical Engineering. (8) Mr. Baidai Sartan Bhargava, Mining. (9) Mr. Kasinath Saikia, Paper Pulp industry. (10) Mr. Abdul Gafoor Khan, Electrical Engineering.

Reviews and Notices.

A FIRST BOOK OF ENGLISH LITERATURE, BY PROF. SAINTSBURY (MACMILLAN & Co.) 2s net.

The student of English literature can hardly wish for a more authoritative chronicler than Prof. Saintsbury. His *History of Literature* is quite a classic in the line and generations of students have derived all their knowledge of the subject from its pages. Its volume, and the rather high standard of writing in the book have however prevented its being used by beginners. We therefore welcome the appearance of this handy manual which will serve as an excellent introduction to the subject. It must be almost impertinent on the part of a reviewer of to-day to enter into an examination of Prof. Saintsbury's writing. If he is not quite as stimulating as some other historians of English Literature, he is the most reliable of our literary guides, and is therefore the best fitted for use in the class room. There is a very valuable abstract and chronological conspectus and a glossary of technical terms at the end.

SHAKESPEARE'S 'HAMLET,' EDITED BY S. G. DUNN. (THE OXFORD UNIVERSITY PRESS.)

Hamlet is probably one of the most difficult plays to annotate and we are not surprised at the large number of editions of the play that appear from time to time. Mr. Dunn has succeeded in producing a very useful edition in a handy volume. The introduction is good and the notes are clear and discriminating and display a very wide range of reading and a capacity to draw literary parallels of value. We admit the edition is intended for use by the Indian student, but no purpose is served by putting forward fancied theories about this or that weakness of the Indian student. The chapter of instructions to the student about the study of Shakespeare need not have been headed *The Study of Shakespeare in India*. Anglo-Indian editors cannot plead ignorance of the fact that it is not the Indian student alone that needs to be told that he must consult *The Oxford English Dictionary*, *Skeat's Etymological Dictionary* and the *Variorum Edition of Shakespeare's Plays*.

MARDEN'S INSPIRATIONAL BOOKS: EVERY MAN A KING; SELF-INVESTMENT, BY O. S. MARDEN. (V. KALYANA RAMA IYER & Co.) 1 Re. each.

Mr. Marden's Inspirational books are already too well-known to need any fresh introduction.

The two latest additions to the series are as stimulating as the others and will be particularly useful to the young student who takes kindly to didactic teaching. We have often regretted the waning popularity of hortatory writers like Smiles, Tod, Cobbet and that excellent old favourite, the author of Sandford and Merton. Mr. Marden has contributed largely to a revival of the older traditions and we hope the valuable messages of Self-reliance and Application to work embodied in these two volumes will spread widely among the younger generation in India.

JULIUS CESAR, EDITED BY J. C. SCRIMGEOUR. (MACMILLAN & Co.) Rs. 2.

Messrs. Macmillan & Co. have added one more useful volume to their numerous series of literary classics. The book is of particular interest at the present moment in view of its being a textbook for the Intermediate classes. There is nothing of striking merit in Mr. J. C. Scrimgeour's edition. The introduction is however of some value and notes are fairly good. A play like *Julius Caesar* can hardly be discussed adequately without a study of the historical background and we are not sure if it is very much in evidence in the volume under review. We confess we see very little excuse for the volume being priced so highly as two rupees.

THE SECRETS OF TANGO, BY S. B. CHESTER. (WARNER LAURIE & Co.)

We do not know if the rage for the Tango has yet reached India and if it is taught in European Schools in the country. Mr. Chester's book is an admirable manual on the subject and combines a historical sketch of the Tango dance with an elaborate exposition of the art. The book has also a number of valuable illustrations.

NOTES ON THE TEACHING OF ENGLISH, BY W. J. BATCHELDER, PART II. (MACMILLAN & Co.) 1s. 6d.

We had the pleasure of reviewing the first part of this useful manual for teachers some months back and we are glad to see the volume completed. Teachers of English in the Secondary Schools of our Presidency will find this part particularly valuable as it contains considerable practical instruction in the matter of introducing literature to the young students. Mr. Batchelder

has a fine sense of literary appreciation and we have nothing but praise for the taste and judgment he has exhibited in his advice on the choice of books. We hope to see the book used extensively by teachers of English in this Presidency.

INTRODUCTION TO MODERN INORGANIC CHEMISTRY. BY J. W. MELLOR, D. SC. pp. xvi + 684. (LONGMANS GREEN & Co., LONDON). Price 4s. 6d.

Dr. Mellor is very well-known to the chemical world as the author of many excellent works and his latest production is meant as an introduction to his larger work "Modern Inorganic Chemistry." The author begins with the invisible air which surrounds us on all sides and in a couple of lessons imparts to the student the result of many years of study and thought as to its nature and composition. The 3rd chapter deals with water, its physical changes and the importance of these as regards animal life and nature and summarises the essential facts known about solution. The characteristics distinguishing chemical compounds from mechanical mixtures are next discussed, light is thrown on the obscure character of chemical affinity and the real meaning of a law of nature explained. The three important gases Hydrogen, Oxygen and Nitrogen next claim the attention of the student. The inter-relations between the numerous empirical facts established so far are now laid bare on the basis of the atomic hypothesis and a clear exposition of the system of nomenclature of Inorganic Chemistry follows. In the 8th chapter the author starts with common salt, an essential constituent of animal food and leads the student to hydrochloric acid and by its oxidation to chlorine. The discussion of the law of combining volumes and Avogadro's explanation of the same lead to the conception of molecules, their relative weight, and representation by chemical symbols and here the foundations of Chemical Arithmetic are laid. The central theme of the 10th chapter is acids, bases and salts and a study of these is followed by an exposition of the law of mass action which leads to the dynamic conception of chemical equilibrium. The analysis and synthesis of chalk provides for study gaseous carbon dioxide and in the interesting discussion of the oxides of carbon are explained the laws of Henry and Graham, the modes of formation of stalactite and stalagmite, the methods of softening hard waters, etc. The wider meaning now attached to combustion, the chemical

changes involved in the respirations of plants and animals, the structure of a Bunsen flame and other allied matters from the material for the 13th chapter. Ozone is the next object of study and its superior oxidising powers are explained in the light of Thermo-chemistry. In the next 22 chapters the elements are taken in families, each element and its important compounds treated in detail, and finally the bonds of similarities which bind them into a family are disclosed and explained. In this study commercial and laboratory methods of preparation alike receive attention; practical applications to industries and common life are kept in view; the laws of physical and theoretical chemistry are introduced and explained in approximate places as opportunities occur; the subject matter is as far as possible developed in historical order; and the student is thereby indirectly made conversant with many of two salient points in the history of chemistry. The last chapter is devoted to an explanation of the periodic classification and its forerunners. This is followed by an appendix which treats of some few organic compounds as cellulose, starch, sugar, alcohol, etc. At the end of every chapter are a collection of questions and interspersed in the body of the book are numerous apt quotations which are pregnant with meaning and inspiration.

The primary object of scientific education is the development of the scientific attitude of mind and the appreciation of the scientific method and judged from this point of view it must be admitted that the book is exceedingly well written and is second to none now before the public. We have therefore great pleasure in cordially recommending it to the junior students of our Universities.

HINDU CLASSICAL DICTIONARY, BY JOHN DOWSON, MESSRS. TRÜBNER'S ORIENTAL SERIES: CHEAPER RE-ISSUE.

This useful compilation of Hindu Mythology, Religion, Geography, History and Literature has run through five editions thereby evincing its popularity. This re-issue is a cheaper re-print of the fifth edition. Though the scope of the work is limited to the publications and works of European scholars it is a very useful compilation, so far as it goes, gathering together as it does the great bulk of information available to students in a variety of publications, some of which are hardly accessible. The only improvement possible is its completion by incorporating in it the

information available in works which have so far been published in India and those remaining yet unpublished. Messrs. Trübner deserve the gratitude of the reading public for this cheaper re-issue.

REPRESENTATIVE PASSAGES FROM ENGLISH LITERATURE, CHOSEN AND ARRANGED, BY W. H. HUDSON (MESSRS. GEO. BELL & SONS).

This is intended to be a companion book to the author's Outlines of English Literature, and contains a collection of illustrative readings 'chosen with a view to bring out either the distinctive personal features of an author's genius and style, or some feature of importance in the spirit and style of his age.'

The selections beginning with Chaucer and ending with Ruskin and Macaulay, seem well made; and are so arranged as to illustrate merely the literary features of the various authors and their ages.

HIGH ROADS OF LITERATURE. BOOKS V & VI. (MESSRS. THOMAS NELSON & SONS.)

These two books contain like the earlier ones well-known passages from English Classics graded to the varying standards of pupils in whose hands these are intended to be put. Each passage is introduced with a brief account of the author and his writings, and a few notes are added at the foot of each page explaining difficulties. The feature of the series is the wealth of illustrations both coloured and plain from famous artists which make the series very attractive to young readers.

THE BUILDING OF THE BRITISH EMPIRE: A READING BOOK FOR SCHOOLS. (MESSRS. GEORGE BELL & SONS.)

The expansion of Britain into an Empire is told in this little book in a series of episodes of history. Though the plan of the book and its small compass make it obligatory to omit much interesting matter, the minimum given is so treated as to give a better knowledge of the history of the Empire as a whole, and of the geographical influences that powerfully affect the history of the nations. To emphasize this connection between history and geography a number of outline maps are added to the other illustrations which enhance the usefulness of the book.

POEMS OF ACTION: SELECTED BY V. H. COLLINS. (THE CLARENDON PRESS, OXFORD).

This is an anthology of poems each of which relate a definite story of action. This selection was made in response to some demand among those in teaching for such a collection. The anthology contains some well-known pieces usually found in books of selections, as also many more that are not so commonly found. This will come in handy for those that are on the lookout for poems of action to interest a class of young readers in English poetry.

A BOOK OF ENGLISH PROSE, SELECTED AND ARRANGED BY PERCY LUBBOCK, M. A. PART I FOR PREPARATORY AND ELEMENTARY SCHOOLS; PART II FOR SECONDARY AND HIGH SCHOOLS. (CAMBRIDGE UNIVERSITY PRESS).

The selections in these two books range from Sir Thomas Malory to R. L. Stevenson. The passages are well chosen and arranged in historical order. Some of the passages are abridged while the others are given *in extenso*. A few notes are appended which are far too meagre for students, at any rate in this country. The selections may, with advantage, be used by students who have to study English literature in regard to the development of English prose. The books are likely to be found too difficult for the stages below the High School Classes in Indian Schools.

HEATH'S CLASSICS: PRIVATE TUITION INSTITUTION, BOOK-DEPOT & SPECIMEN DEPOSITORY, CHAMARAJENDRAPET, BANGALORE CITY.

Four volumes of this series have been received by us: Bacon's Essays, Minor Poems of Milton, Carlyle's Essay on Burns and Coleridge's Ancient Mariner. These strike us as being well edited, with good introductions and notes, giving selections from criticisms on the works by competent authorities, and notes. For Indian students we wish the annotations were a little more copious.

Indian Educational Notes.

MADRAS.

Endowments.—The Government accept, with thanks, the offer of M.R.Ry. Dinabandhu Panda to endow two prizes tenable in the Ramagiri Elementary School. The Accountant-General will be authorized to receive the sum offered and to purchase with the amount such securities admissible under section 4 (3) of the Charitable Endowments Act, No. VI of 1890, as are likely to yield the best return. He is requested to furnish the Director of Public Instruction with particulars of the securities purchased and the balance in cash, if any. The proposed scheme for the administration of the fund is approved. The Director of Public Instruction will be requested to ascertain from the donor whether he agrees to associate with him the Sub-Assistant Inspector of Schools, Balliguda Hill Range, in the management of the trust and to submit the necessary draft notification in consultation with the Government Solicitor.

The Government accept with thanks the offer of M.R.Ry. P. V. Krishnaswami Chetti Garu to constitute an endowment for the enlightenment of Hindu women. The Accountant-General will be authorized to receive the Government securities offered. The Director of Public Instruction will be requested to obtain and forward two formal applications under the Charitable Endowments Act, 1890—one for vesting the fund in the Treasurer of Charitable Endowments and the other for settling a scheme for the administration of the fund.

Government Grants.—The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 6,700 towards the cost of construction of a building for the Edward Secondary School, Ponnur, Guntur district, subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Government are pleased to sanction, as a special case, a grant not exceeding Rs. 8,300 towards the cost of extension and improvements to the Boys' and Girls' Homes attached to the Stanes' High School, Coimbatore, subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted, and that all the conditions prescribed in the Code of Regulations for European Schools have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Government are pleased to sanction, as a special case, a grant not exceeding Rs. 38,625 towards the cost of a hostel in connection with the Madras-i-Islamiyah, Vaniyambadi, subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The maximum amount of the grant sanctioned in G. O. No. 4, Educational, dated 3rd January 1913, for the construction of a building for the American Arcot Mission Hindu Girls' School, Kaverippakkam, will be raised from Rs. 2,670 to Rs. 2,880. The Director of Public Instruction will be requested to obtain and forward to the Chief Engineer for record copies of the revised abstract and comparative statement and also of the revised plans.

The Government approve the proposal of the Director of Public Instruction to take over the site provided for the purpose by the authorities of the Hindu High School, Ambasamudram, to construct a hostel thereon at Government expense and to lend the building to the school for hostel purposes on the understanding that the charges for maintenance and repairs will be borne by the management. The Director of Public Instruction will be requested to submit, for the approval of Government, rough plans and an approximate estimate of the cost of constructing a building for the hostel.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure nor Rs. 7,555 towards the cost of constructing a Science Laboratory for the Hindu High School, Ambasamudram, subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 2,325, towards the cost of extensions to the building of the Ganapathi Secondary School, Mangalore, subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled, the grant will be paid as funds become available. A copy of the estimate should be obtained and forwarded to the Chief Engineer for record.

Mortgage for Government Grant.—The Government consider that in the case of grants for school buildings, hostels and students' boarding houses the period of mortgage specified in articles 53 and 55 of the Code should be raised from twenty to forty years and that in cases where, in view of exceptional circumstances, full grants towards the cost of these buildings are sanctioned, the Government should retain a perpetual lien on the building. The Director of Public Instruction will be requested to submit a draft of the necessary alterations in the Grant-in-Aid Code.

A Women's College for Madras.—The important announcement is made that the Madras Government has decided to establish in the Presidency City a Second Grade College for Women, chiefly in the interests of girls and women, whose desire to secure the benefits of a Collegiate education is hampered by their caste scruples and prejudices. The proposed College, will teach up to the Intermediate grade and that it is expected to open with an attendance of some 20 or 25 pupils, the bulk of whom will be diverted from the Presidency College. The services of two qualified lady teachers from England are being requisitioned, and as regards finances, it is stated that a sum of Rupees 55,000, originally intended to be spent on the development of the Training School, will be devoted to the new institution. The Madras Government in general and the Department of Public Instruction in particular deserve to be congratulated on what may aptly be described as a turning point in the history of female education in this Presidency, though, when all is said and done, the success that is to attend the proposed development must be proportionate to the extent to which the public respond to the endeavours of the Government to promote the cause of female education.

Dufferin Fund Scholarships.—The following scholarships have been awarded by the Madras Branch of the Countess of Dufferin's Fund:—

(A.) M. B. Scholarships of Rs. 50 per mensem to (1). Miss E. Maduram (Sarah Tucker College, Palamcottah), (2) Miss E. Samuel (H. H. Maharajah's College, Trivandrum). Both these candidates secured a First Class Certificate at the last Intermediate Examination of the Madras University.

(B.) Preliminary M. B. or L. M. S. Scholarships of Rs. 25 per mensem to (1). Miss A. B. Hardy (Bishop Cotton's School, Bangalore), (2). Miss D. Murray (Willesley's School, Naini Tal), (3). Miss M. A. Dwehiz (Dorseton Girls' School, Madras), (4). Miss Mabel Bay (Collegiate School, Madras)

(C.) L. M. and S. Scholarships of Rs. 35 per mensem (1). Miss Arputham Michael (Sarah Tucker College, Palamcottah), (2). Miss M. Armaninayagam (of Cuddalore). These two Candidates secured a second class certificate at the last Intermediate Examination of the Madras University. (3.) Miss D.

Jagganadham (of Madras) who holds the Matriculation Certificate of Bombay University.

(D.) Apothecary Scholarships of Rs. 25 per mensem (1) Miss M. G. Maclean of the Madras Medical College.

(E.) Post Graduate Scholarships of Rs. 75 per mensem to (1) Miss D. K. F. Michael, M.B. C.M., Madras University. (2) Miss M. D'Rezario, Apothecary, Madras Medical College. The latter scholarship being granted by the Central Committee.

In future, other things being equal, preference will be given to those applicants for Dufferin Fund M. B. or L. M. & S. Scholarships who have taken Group II (Natural Science, Chemistry and Physics) for their optional subjects at the Intermediate Examination. All students working with Dufferin Fund Stipend, for the Intermediate Examination will be required to take these subjects during their Intermediate course. Candidates who fail at the 1st M. B. Examination may probably be drafted into the L. M. and S. course, whilst candidates who fail at other examinations may probably have their stipends withdrawn.

BOMBAY.

Bombay School Final. Without accepting in its entirety either the Madras or the United Provinces system of the School Leaving Certificate, the Director of Public Instruction in Bombay submitted to the local Government a scheme of his own which, 'involves no increase of staff and no extra expenditure, fits in with the existing theory of the duties of the inspectorate and was approved at the conference of local educational officers held at Poona in August 1913.' The main features of the scheme are the following:—

(i) weekly examinations in one subject at a time to be held usually on a Saturday;

(ii) the papers after being marked by the class master, to be checked by an independent master, either the headmaster or another assistant master;

(iii) the weekly examination results thus moderated to be recorded systematically and entered in the individual progress books of the pupils;

(iv) a record to be maintained by the headmaster of punishments for serious offences (including persistent idleness);

(v) the scheme to be limited to the 6th and 7th standards of Anglo-Vernacular Schools.

The School Leaving Certificate which will be issued in connection with the above scheme will contain the following particulars regarding its holder:—

(a) attendance (number of days out of so many);

(b) conduct;

(c) the marks of four terms reduced to a percentage for each subject (and also the average mark of the class), based on the weekly examinations and the annual examination of the 6th standard;

(d) proficiency in games or any special aptitude;

(e) any examination already passed.

Candidates for the school final examination will be required to produce this certificate along with their applications. The certificate will also be taken into consideration in assessing the result of which will be entered below the school record of progress and conduct. The completed certificate will thus show the pupil's school record for two years besides the final examination result. The Governor in Council has been pleased to approve of the Director's scheme, 'subject, however, to the inclusion from time to time in the weekly examinations of an oral test on which the Government of India have laid stress.' The Government further say:

With regard to the provision that the certificate will be taken into consideration in assessing the results of the school final examination, the intention is that the school record should be referred to in cases of failure in one subject only. If the superintendent in such a case gathers from the record that the candidate's failure was deserved, he would let it stand; but if it is apparent that the candidate's work in the subject, or in other respects, was such as to afford grounds for condoning his failure in the written examination, it would be open to the Superintendent to condone such failure.

All recognised schools, whether aided or not, will be brought under the system. The Governor in Council says in conclusion:

It is believed that this reform marks an important step in advance. To judge of a candidate's ability on his written examination papers alone can never give entire satisfaction to the examiner, if only because it may well be unfair to the candidate. Under the new scheme the examiner will be able to make due allowance for failure in one subject which may be due to an adventitious cause such as illness, rather than to any faults of laziness or incapacity in the candidate, and in the future there will therefore be very much less chance of a deserving candidate's career being seriously hampered by ill-luck arising out of circumstances over which he has no control. In short, Government believe that the scheme now about to be put into force possesses many of the advantages of the ideal examination which includes a full oral test, without necessitating the very great expenditure which a complete adoption of that ideal would demand.

CALCUTTA.

Public School in Calcutta.—With reference to a Simla telegram, about the establishment in Calcutta of a public school on the English model, it may be stated that the proposal, which has been favourably received by the Government, emanated from some leading members of the High Court Bar and other influential Indian gentlemen, who are ready to finance the undertaking. As yet the scheme is not

fully developed, but the main features are that the Principal and some of the Assistant Masters will be brought out by Government who will maintain the control. It is proposed that the boys shall remain in school up to the age of 18 or 19 and that the teaching shall be sufficient to enable them to go from there straight to an English University or to take up the study of any of the learned professions. Those who desire to take Indian Universities degrees will also have ample facilities afforded to them for attaining this object.

The principal idea, however, will be to give the students the advantages of the residential system to teach discipline and character. It is intended ultimately to place the school in a healthy hill station, but until that project is fully matured the school will be temporarily established in Hastings House, where a start will be made with a certain number of boys in consequence of the decision that the institution shall be a self-supporting one. It necessarily follows that the fees must be somewhat higher than those ordinarily charged, so that only the wealthier classes may be able to pay them. At the same time the promoters have agreed to provide a goodly number of scholarships to help those who cannot afford to pay the full fees of the school or even those who have not sufficient means to pay anything. Although the institution is to be maintained on the lines of the best English public schools, boys will be enabled to learn the vernaculars so that they may be proficient in their own mother tongue.

TRAVANCORE.

Provident Fund for teachers.—During the past few years, much has been done by the Travancore Government to improve the lot of teachers in Sirkar schools of all grades and incidentally to attract a desirable class of professional men into the Educational service of the State, and even at the present moment continued effort is being given to this sensible policy. Not satisfied with endeavours to ameliorate the condition of teachers in its own employ, the Government has been interesting itself on behalf of teachers in the recognised private schools, and it will suffice to say that, as a class, these teachers stand sorely in need of practical sympathy. The Managers of a small proportion of the aided schools pay their teachers fairly liberally and treat them, on the whole, with much consideration, but it is to be feared that, in the larger proportion of such schools, the lot of the teachers is extremely unenviable. The creation of a Provident Fund has suggested itself to the Government as one means of bettering the condition of aided school teachers, and a small committee has just been appointed to draw up a suitable scheme, which will apply to licensed teachers of all classes of elementary and secondary aided schools in the State, the Government undertaking to contribute towards the fund up to a third of the total amount which would be required. With such an offer voluntarily

made by the Government, it would be ungracious, not to say unwise, on the part of conductors of aided schools, not to co-operate loyally in bringing the proposed fund into existence as early as possible. The Government is strictly insisting upon a high level of efficiency on the part of private schools seeking and receiving State aid and recognition, and in view of this, conductors of aided institutions would consult their own interests in helping forward a scheme, one of whose indirect but undoubted results would be to make teaching in aided schools attractive to a more desirable class of teachers than are now to be found in a good many aided schools. The Director of Public Instruction, Dr. Bishop, having addressed a number of Managers of aided schools regarding the proposed fund has been assured of the support of most of them, and we trust that the attitude of the Managers who have been addressed will prove a faithful reflection of the attitude of Managers of recognised elementary and secondary institutions generally.—*The Cochin Argus*.

Abolition of Educational Boards.—In their Order G. O. No. E. dated 22nd June 1907, the Government sanctioned the revival of the Educational Boards and they also sanctioned a set of rules for the formation and working of the same. These Boards were intended to co-operate with the Inspecting Officers of the Educational Department by supplying them with information as to the educational needs of particular localities and by assisting them in the opening of new schools and in the improvement of existing ones. The Director of Public Instruction, in submitting his Annual Report for 1907, commented on the unsatisfactory nature of the work turned out by the revised Boards and promised to enquire into the question and submit a detailed report. On the 24th November 1913 he submitted the report and Dr. Bishop states that 43 Educational Boards had been in existence under the new rules; that as many as 26 out of them did absolutely no work of any kind, and that, out of the remaining 17, while some Boards were of some help to the Inspectorate, the rest were a source of positive trouble to the Officers of the Department; and that none of the Boards ever met since the commencement of 1912. In consequence the Government have passed an order, under date the 18th May sanctioning the abolition of the Board. His Highness' Government observe with sorrow that the Educational Boards have, as a whole, failed to satisfy the expectations with which their revival was sanctioned in 1917. The Boards have, for the most part, ceased to be useful and it would be a mistake to suffer their continuance any longer.

Mr. C. E. Chandrasekara Iyer, B. A. (Oxford) has been appointed Junior Professor of History, in His Highness the Maharaja's College, for three

years, on probation, on a monthly salary of Rs. 400 rising up to Rs. 750.

Mr. P. Ramaswamy Iyer, B. A., who has been appointed Personal Assistant to the Director of Public Instruction, has assumed charge of his duties.

Mr. G. Jesudasan, Secretary to the Missouri Lutheran Mission, Nagercoil, on the 2nd April last, brought to the notice of Government that, while Pulaya and Mahomedan pupils attending the Departmental schools are charged only one-half of the fees prescribed for each class under the rules, the Pariah pupils, who are as backward as, if not more than, the former, are allowed no such concession, and he therefore prayed that the fee concession now granted to the Pulaya and Mahomedan pupils, may be extended to the Pariah pupils also in view of the facts stated above. The Government have now been pleased to modify Rule 126 C. of the Education Code as follows:—"The rate of fee for Mahomedan, Pulaya and Pariah students in the Departmental schools shall be half of these prescribed for ordinary students."

INDIA (GENERAL).

Education in Behar and Orissa.—The report of the Committee appointed by the Behar and Orissa Government to report on the subject of Mahomedan education has been published. The suggestion of providing an Islamic Faculty in connection with Patna University was negative on the ground that the Islamic Faculty in connection with Dacca University was in the nature of an experiment and had not been yet sanctioned, that the Mahomedan University had not yet reached the stage of fruition, and it would be imprudent for Patna University to enter into competition with it in any way. As Mahomedan parents prefer to send their boys to Muktab, instead of to primary schools, it was decided to improve Muktab, for which the Sub-Committee has made various suggestions. It was suggested that model Muktab should be placed in central positions. It has also been suggested that Mianji Training Schools should be replaced by a Mahomedan Teachers' Training School, and the grant of stipends for trained teachers has been recommended. Muktab conforming to the departmental syllabus will have the same claims on local bodies. On the subject of Madrasahs the Committee recommended that the course should be framed with a view to encouraging students who had a real interest in Islamic studies and that one Government Madrasah should be established at Patna. A suggestion to appoint an Assistant Director of Public Instruction for Mahomedan education was rejected, and a European scholar of eminence was recommended for the principalship of

the Government Madrasah. It was also agreed to send a qualified Beharee scholar for training in Europe for the post of Superintendent of Madrasahs.

Vernacular School Teachers.—The following resolution from the Education Department of the Central Provinces Secretariat has been issued:—

All posts at Rs. 11 per mensem and the salary of all such teachers at present in service will be raised where necessary so that their service may become pensionable.

The additional establishment charges involved at present by these measures will be met by a special grant from Government. In the future, when grants are assigned for the extension of vernacular education, the cost of pensionary contributions will always be taken into account in determining the amount of such grants.

Sir B. Robertson trusts that this improvement in the prospects of teachers in vernacular schools, of which the immediate cost of Government exceeds Rs. 60,000 per annum, will encourage those at present employed in the performance of their duties, and that in future it will serve to attract competent men to this branch of the teaching profession.

Study of Oriental Languages.—The Government of India have issued revised set of examination rules with a view to making the study of Oriental languages more attractive to officers. Officers of the Imperial branches of education and Police services are placed on the same footing as the I.C.S., as regards the languages examination. Officers of the Agricultural, Forest and Veterinary services are allowed to take proficiency and high proficiency examination, in any vernacular of the province, in which they are serving. Leave may be granted up to three months before high proficiency and degree of honour examinations in any of the vernaculars and also to candidates to the higher standard high proficiency or degree of honour in Sanskrit, Arabic, Persian or Pali, for study out of India leave may be six months. The limit of service for higher standard is from ten to fifteen for proficiency and for honour degree the time limit is abolished. The rewards for passing the higher proficiency test in the vernaculars are raised from Rs. 1,000 and Rs. 2,000 to Rs. 1,500 and Rs. 3,000 respectively and in Persian the rewards for the higher standard and honours degree are raised from Rs. 500 and Rs. 4,000 to Rs. 800 and Rs. 5,000 respectively. The examination of the proficiency standard is instituted in each province in all important vernaculars. The limit for passing this is 10 years and reward Rs. 750.

The new rules have already taken effect but the changes in the text-books not until April next.

The Educational Review.

We had published in a previous number of this review a short article

The University Professorship of Indian History. by a well-informed writer on this question. We did not wish to make any editorial comments upon it as we did not wish to prejudice the Syndicate's nomination. Now that the Syndicate had nominated Mr. R. Narasimhachariar of the Mysore Archaeological Department and he has declined to accept the offer, we feel more free to make a few remarks upon the question. Nothing we wish to say is to be construed as indicating any want of appreciation either of the work or the worth of Mr. Narasimhachariar. Nor is it that we hold a brief for any candidate in particular.

We would say at the outset that the Syndicate appear to us not to have bestowed enough attention to the functions of a University Professor of Indian History and Archaeology at Madras. We are quite prepared to admit that there is good field for archaeological work in the country. The Syndicate ought to have taken into consideration the actual requirements of the situation and should not have been carried away by notions which may be very correct in the abstract, but quite unsuited to the requirements of the actual needs of the situation in Madras.

In the designation of the Professor the Syndicate have coupled two subjects: Indian History and Archaeology, presumably the Archaeology of India. We shall also admit that a man with good qualifications in the one may easily acquire what he requires of the other for his purposes. The acquisition

of special ability in one or other of the many subsidiary branches of historical auxiliaries depends a great deal upon individual taste and opportunities for research.

Granting so much then, what is the kind of man best fitted to fill the chair of Professor of Indian History and Archaeology at Madras? To answer this question the Syndicate or the Senate should first consider what the position of Indian History is at the University as a whole. At present Indian History is quite a neglected subject taken as a whole. Except in the Pass B.A. Course of Group V, the subject receives hardly any serious attention. In the Honours Course the subject does certainly find a place in Group A, but so far as we know none of the colleges have taken up the subject. The reason for this reluctance is not far to seek. None of the European professors finds it at all convenient to handle the subject and they are perhaps not willing to appoint an Indian professor of sufficient standing to take the subject either. We need not go into the reasons for this reluctance. It is enough for our purposes that this state of things does exist. Even where special periods have to be selected none of the earlier periods of Indian History find ready acceptance. One has only to take note of the fate of Mr. Srinivasa Iyengar's proposition to understand the tendency. To remedy this state of things ought to be, in our opinion, the first object of the University in the appointment of a professor of Indian History, &c. This requires a historian primarily, and not an archaeologist or a numismatist, pure and simple. Archaeology, Numismatics, Architecture and Epigraphy have their use and they are by common consent only handmaids to History. We should

not object to a chair for each of these branches when we can afford it; but that any one of these should take precedence of history is what we fail to understand.

This position of the Syndicate gets to be much harder to understand when we take into consideration the actual resources of the University and whence it came. This is a chair opened by the munificence of the Government of India. This Government maintains an Archaeological Department, thanks to the exertions of Lord Curzon. As a part of this Department there is an Archaeologist and an Epigraphist at Madras. The whole of the resources of the Local and Imperial Governments are at the back of this department. Much work is being done though very much more yet remains to be done. In comparison to this department and its resources what are the resources of the Madras University, and what does the Syndicate or its Sub-Committee expect the Archaeologist-professor to do actually? How do they propose to finance him? Irresponsibility seems to us writ large on the recommendation made by the committee, and ignorance of the actual needs of the Madras University at present.

Leaving aside this past nomination we shall consider what it is that the University Professor would have to do and what kind of man it is that can be trusted to do it. We are firmly of opinion that he must be a history man who is capable of turning to historical account the material that is placed before students of history by the various sections of the archaeological department. The capacity to turn historical material into history implies acquaintance with the aims and methods of archaeological work. That such a man is needed is brought

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home to us by the recent Government Order which warns off the Epigraphist from making contributions even to the Archaeologist's Annual. This is but an old idea put in a new G. O. as we had heard of it more than fifteen years ago. This is but right. The University Professor must then be a man who can do research work himself in writing and teach others to do it likewise. We do not believe that there will be many who will quarrel with us in this position as to the qualifications of the professor that is to be. The qualifications of such a professor would have to be more specifically—

1. A working knowledge of some of the languages of the country and a capacity to acquire one or more of them easily.
2. An acquaintance with the methods of work in Epigraphy and the other sciences auxiliary to History.
3. Acquaintance with the work in these various branches which is being done elsewhere.
4. A proved capacity to turn all these to account in making history out of the material thus made available on up-to-date methods of historical criticism.

This it will be conceded is work which a University Professor may reasonably be expected to do which an expert archaeologist or epigraphist is not called upon to do. We do not deny that an archaeologist or an epigraphist can have all this knowledge in exceptional cases; but the actual training they have, admittedly does not include all this. This and this alone is our objection to the appointment of an archaeologist or other specialist of the kind for this place—the more

so as the Government of India and the local Governments make ample provision for archaeological work. Historical work is left entirely to private effort, and this the University ought to direct both by precept and by example.

In regard to the Madras University Professor there is the additional responsibility that his attention should first be given to South Indian History which at the present time happens to be very little trodden of European scholars. Work in this line implies knowledge of the vernaculars and with the possible exception of one or two prominent names, the field remains quite unoccupied even by Indians. This consideration would make it necessary to appoint a candidate who can establish his claim to the position by work already done by him. It would be difficult to get a European candidate with the necessary qualifications nor does it seem quite desirable either. It would do small credit to University education in Madras if a local Indian candidate could not be found for the place. We can mention a name or two of even European reputation. We desist, however, as we do not wish to prejudice the claims of any candidate or embarrass the Syndicate in their choice. Our only concern in this connection is that the Syndicate should not again be carried away by considerations other than that of finding the best history professor whose achievement in the shape of work already done would justify the choice.

This is an excellent annual institution in Mysore at which official, and non-officials meet and discuss plans for improving the material prosperity of the people of Mysore. The Yuvaraja and the

Dewan attended the various sessions of this year's Conference, which thence derived real vitality. The first thing deserving of note in the debates at the Conference was the cordial co-operation of the official and non-official members, who did not, as occurs too often in consultative and administrative assemblies in India outside Mysore, organize themselves into two opposed parties, each trying to parry attacks from the other and displaying half-veiled animosity to and suspicions of the honesty of the other side. The work of the committees was commended by the Dewan in his speeches and there was on all sides an evident desire to "move and act together and endeavour to raise their standard of work to the highest level attainable." What was actually done last year was commented on by us recently in our review of the Administration Report of the Inspector-General of Education. The schemes under preparation and investigation deal with the introduction of compulsory education, the improvement of female education, the imparting of practical education in elementary schools, the establishment of a University, the provision of what is called in England "continuation education," the revision of curricula of studies, the starting of public libraries, the encouragement of book-writing in Canarese and the improvement of physical culture. Some of these questions cannot be solved in one year, and some clearly beyond the scope of the Conference. Thus as the Dewan pointed out in his closing speech, "the development of Kanada literature is a laudable object but a semi-official Association like ours cannot undertake to enter into relations with the people outside the State. Such work should be left to private individuals or associations." Another proposal that can best

be undertaken by private individuals, though the Dewan did not point it out, is the publication of a magazine for children. We regard as the one defect of the spirit of the proceedings of the Conference that the members looked up to Government for every thing and did not evince the spirit of self-reliance which alone can lead to real progress. All the same, we agree with the Dewan, in congratulating "the Assembly on the high level of the discussions and the spirit of conciliation, restraint and good temper with which the several subjects were treated by the speakers" and hope that under the guidance of His Highness the Yuvarajah who, as the Dewan has pointed out, has "since his return from Europe evinced the qualities of "a leader of great promise for all useful and progressive movements in the country," Mysore will become a model province, an object-lesson of what can be done in India, by sons of the soil in developing the resources of the country, mental as well as physical.

In March 1914, the University of Bombay organized a Conference of Prof. Ramsay Muir on the Study of History. the Chairmanship of Mr. Ramsay Muir, late Professor of Modern History, University of Liverpool. Prof. Muir started each session with an address which was followed by a debate; the subjects being 'The Aims of Historical Teaching in a University,' 'Methods of Study and Teaching for Under-graduates,' 'Post-graduate and Research work,' and 'the Relations of History and Geography.' There was nothing novel in the pronouncements of Prof. Muir; in fact all that he said formed a part of the History or the Geography Lectures delivered some years ago to school teachers at the instance

of the Madras University. All the same, the practice of the Madras University is so divorced from theory that we should like to draw the attention of our readers to some of the points made out by Prof. Muir and to point out in what very primitive state things are in Madras Colleges, Madras in this respect being no worse than the rest of India. The object of teaching was not the acquisition of any body of essential facts, for in the study of history "it did not matter what particular set of facts the student had grasped, provided he had studied them in the right way. In other words, it was the *method* of study and interpretation which was alone important. Once the student had obtained that by the study of any period—once he had acquired the 'historical mind,' the habit of challenging the past for the interpretation of the present—he had obtained the chief value of a historical training." Judged by this test the Indian University man is an unmitigated failure; for all the troubles of India in the matter of economic and social reform are due to an inability by the educated man to estimate rightly the bearing of the past on the present. Prof. Muir tells us that History, if properly handled, could give the student "an intelligible explanation and background for the civilization in which he lived." For this purpose (1) "the history of the student's own country, and of those countries which had been most closely linked with it ought to form the core of his study. This involved a broad survey of wide field of History. (2) There should be included some study of a society in sharp contrast with the student's own, in order that by the anti-thesis, the main features of his own society's development should stand forth the more clearly. (3) The study of the more modern

period—the immediate background—should not be neglected, but should even be emphasized: disregard of this was apt to mean that the student's historical work lacked relation with the conditions he knew, and the object of explaining these to him was lost. (4) Particular emphasis should be laid upon economic and social developments, and upon the history of ideas, rather than upon wars, diplomacy and high politics." At the last meeting of the Madras Senate this very thing, so clearly explained by Prof. Muir was proposed, and was defeated by a majority of one. How are we to explain this curious phenomenon? Is it that none of the Fellows that opposed the measure, though imbued with the matter and the spirit of European education realized the 'Aims of Historical Teaching in a University?' In India, we are very often accused—and rightly so—of the lack of the historical spirit; and yet the irony of fate has it that the European Fellows of the Madras Senate presented a solid front of opposition to the proposal to do the only thing that can develop such spirit! We are often told "not to be the slave of the printed word, or of phrases and catch-words." But which will make us the slave of the printed word, the memorizing of ill-understood facts of ancient European History, and theories of modern economics, which have no bearing on the environments under which we live or the economic and social history of our country, which can throw light on the things that are all around us and show the way to a brighter, better state of things. Prof. Muir unhesitatingly claimed this to be a "real defect," that "extraordinary little attention was given to Indian History" in Indian colleges and schools.

Another criticism Prof. Muir felt bound to make with reference to the organization of historical studies in our Universities was that the cast-iron curricula imposed on our colleges made "freedom of teaching" impossible. He pointed out that the Professor ought to be enabled to teach what he can teach well, "to do his best for his pupil." This is rendered impossible in India by our Universities being "federal"—a number of colleges whose only bond is community of examination, by the fact that it is not a common University life but a common curriculum, a common examination that is the touch of nature that makes them kin. Now who is responsible for this state of things? We are very often taunted with being devoid of the spirit of Western culture, but it is not Indian but European Professors of History that are responsible "why this defect of the federal system should not be qualified." The real trouble in this case is the examiner: if different colleges worked at different syllabuses, where can you find the examiner qualified to set examination papers on them? This exaggerated importance attached to the "false idol" of examinations is at the bottom of the sacrifice of higher teaching work. The examination, as Professor Muir pointed out, "could do no good, it might easily do a great deal of harm. The art of examining justly was one of the most difficult of arts, and one of the most responsible, for it meant the determination of the intellectual quality of the study and the kind of work in the world he was suitable for." Hence examination papers should be so constructed that students should feel that honest work under the guidance of a good teacher should tell. But this is scarcely possible when there is a fixed curriculum imposed on all.

The next point that is made out by Prof. Muir was "that the prime object of University teaching was gradually to make the student more capable of working for himself on sound lines and less dependent upon his teacher for guidance." "All set lectures should be abolished, certainly the kind of lecture that merely explained and expanded a text book, or the kind of lecture that provided compact and well-arranged knowledge sufficient to enable the student to pass his examination." Instead of listening to and taking imperfect notes of lectures, students ought to be made to write and discuss essays on topics suggested by the lecturer; for essay work, if properly handled was a better test of a student's quality than any formal examination. The value of the discussions would be much enhanced if conducted in small groups in which teacher and students joined. Can our Professors join in such "Seminar" work, which would compel them to come out of the shell of reserve within which they ensconce themselves for the proper preservation of their academic dignity?

Professor Muir observed in regard to research that there was "much talk about the deficiency of the Indian Universities in this field, and many attempts were being made to remedy this defect, most of which seemed to him likely to be unproductive." Research was possible only in an atmosphere which is full "of free criticisms of discussion, of intellectual curiosity." "Little good would be done by hiring scholars to conduct research and bribing pupils to attend their courses. This was like buying fruit to tie on the ends of branches." In some of our Universities even this is not done. Most of our post-

graduate lectures are as much boiling down of other people's work as college lectures are. How distant this is from Prof. Muir's ideal, which is contained in his remark, that "the true view was to think of the educational system as a whole as an irrigation system, in which research formed the great reservoir of pure learning from which all the canals and ditches were supplied: those pure waters must flow throughout the system." This conception specially applies to the last subject dealt with by the Liverpool Professor. Indian History specially lends itself to research work in the matter of the relations of History and Geography; for there is no "country in which the influence of geographical causes upon racial character, economic conditions, and the course of historical events could be more clearly brought out." But the Madras Senate has banned this work, though we hope that the Indian Fellows will not let this question rest but will return to it often and often till they make the Senate agree to the reasonableness of the proposal that a small percentage at least of the alumni of an Indian University should be allowed to work at the history of their motherland.

Another English Professor whom the Bombay University got to deliver lectures was Prof. Smithells of Leeds University. He delivered three lectures in March, on the following subjects: (1) The Place of Science in National Life; (2) The Teaching of Chemistry and Applied Chemistry; (3) Flame. The last lecture was a purely technical one and need not be reviewed here. Prof. Smithells condemned the academic teaching of science as of something dissociated from practical life. He said he

Post-graduate
research in India.

Prof. Smithells
on Science teach-
ing in India.

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A SCHEME OF PERIPATETIC TEACHERS.

IN recent years the agricultural population has attracted considerable attention and Government are evincing a deep concern in bettering their lot. They constitute the unseen and perhaps the unornamental foundation of our whole social edifice and it is very fundamental that this basis of our economic fabric should be in a sound condition. The duties and obligations of Government have therefore a more immediate reference to this section of the community and such of us as are charged with the task of elevating them morally and materially could not desire to have a nobler purpose in life and it is the duty of others to bestow their

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thought on the complex agrarian problems so as to be ready to help the Government with their suggestions whenever their services may be demanded. It is almost culpable not to be acquainted with the needs and aspirations of a community whose helplessness is their best defence, and from whose labours, we all derive our material sustenance.

The task of dealing comprehensively with the rural problems is outside the province of this paper; it would be a fit subject, however, to be investigated by a local commission, for the issues raised by the question are numerous, varied and important. I am perfectly certain that an enquiry of this sort will lead to the formulation of a more scientific policy for increasing the prosperity of the agriculturist and more systematic efforts may be easily organised. It is to be borne in mind that all activity if it is not inspired by insight is worse than useless.

The chief evils that afflict the rural population have an economic origin. Most of them are in a state of chronic indebtedness for which they are partly responsible. Generally frugal, they on occasions of festivity or marriage spend extravagantly. Not a few lead a habitual intemperate life. Consequently when the demands of the revenue officials are made they appeal to the tender instincts of the village money-lender. The farmer is

had "serious misgivings about a great deal of science" that was being taught in our colleges and schools. "It seems to me that there is a great deal of science being taught which is not likely to issue in anything practical or in anything really intellectual." A greater condemnation of our remodelled colleges and schools—thanks to the golden regime ushered in by Lord Curzon's Universities Act and Educational Conferences—cannot be conceived. "My opinion is that the thing that would be most valuable to the country, the thing that is most needed, is the sound teaching of the very elements of science and the dissemination throughout the schools of what science is and what it can do. Yet the Madras University has set its face rigorously against a B. Sc. course and made science an optional hand-maiden to the study of "Arts." In the Madras courses, the study of the English language occupies the greater portion of the time and energy of the students and science occupies the background. And according to Professor Smithells even the little science that is taught at the present time, "is of a kind which will not produce the specialist and yet will not imbue the person who receives it with the real notion of what the relation of science is to national life." In the particular science of which he is a leading light, Professor Smithells pointed out how the average teacher in England, and very much in India, suffered "from a sort of orthodoxy," "from a tradition from a belief that there is a certain range of knowledge in a science that every one ought to know; and if they do not know it, they are to be branded as ignorant." People do not realize that "old cargo" has to be thrown overboard constantly in teaching, because the dread uniformity that the examiner imposes chills out all life from whatever good teaching that exists.

We are glad that the Madras Government is going to start a college for women immediately. The nucleus of the college will be formed by the lady students who, it is hoped, will be diverted from the Presidency College. The proposal will further "test the extent of the demand which exists for a purely secular women's college." Speaking from the point of Indian advancement, we are of opinion that advanced female education should not be treated as a matter of supply following demand; it ought not to be treated as the coffee merchant does when he tests the demand in the market before stocking his ware. Female education has to be fostered like a hot-house plant. Hence we think that starting a college for eight months on the understanding that it would be continued if during that brief time the young ladies of India would flock to the college is worse than useless. The D.P.I. in his letter to Government proposing the opening of the college, says that the ambition of all girls is to obtain a University Degree. A University Degree attracts our young men because it means the permanent possibility of so many Rupees per mensem, and girls in India are not yet advanced enough to compete with young men in bread-winning, what we want is real women's college where education will be given to them such as will be really useful and attractive. Higher female education such as will be of real benefit to Indian young ladies and will prove so attractive as to induce them to break age-long ideals of self-immurement, ought to be conceived and provided for, as an end in itself and not as decorative appendage to the University Intermediate Examination in Group III. Such a college ought to be started permanently and worked patiently till people get over their prejudices and seek the education provided.

A College for
women in
Madras.

ANCIENT INDIA

BY

S. KRISHNASWAMI AIYANGAR, M.A.

WITH A PREFACE BY

VINCENT A. SMITH, M.A., *Author of 'Early History of India.'*

SELECT OPINIONS.

I can see clearly that *Ancient India* is a most interesting book, and that I shall profit much from its perusal. I trust that it is only a preliminary to other works on a larger scale, such as the *Early History of Southern India* which as Mr. Vincent Smith says, is so much wanted by all students of the subject.—*Dr. G. A. Grierson, Ph.D., C.I.E., I.C.S.*

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I cannot express to you the pleasure I feel that a gentleman like yourself should take up so seriously and carefully and dispassionately the study of the History of South India. I have been hoping for many years that such a work should be attempted by a South Indian Brahman for many reasons; and I send you my warm congratulations on the happy climax of your labours.—*Mr. R. Sewell, I.C.S. (Retd.)*

Your volume looks well and will be useful to me if I live to bring out a new edition of the *Early History*, as I hope to do.—*Mr. Vincent A. Smith, M.A., I.C.S.*

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Indian History which have interested me for many years. Let me congratulate you on the vivid manner in which you have arranged and represented the *disjecta membra* of historical information. It is no small gratification to me to observe that you have so carefully examined and utilized every item which is brought to notice in my epigraphical publications. I shall often consult your volume, the value of which is enhanced by the full index.—*Dr. E. Hultsch, Ph.D.*

This is a noteworthy book in many respects. It is a proof that the historical spirit is beginning to take hold of English-educated Indians, who can do invaluable work in throwing light on the obscure chapters of Ancient Indian History.—*The Times of India Illustrated Weekly.*

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Mr. Krishnaswami has performed a notable service both to his community and to students in general by the publication of his researches.—*'India.'*

The progress of education in India is proved when an Indian writer, with the qualifications possessed by Mr. Krishnaswami Iyengar, of the Mysore Education Service, can produce such a book as *Ancient India*.....Mr. Iyengar's work has the guarantee of an introduction by Mr. Vincent Smith, the Deputy Reader in Indian History at Oxford, and may be accepted as a valuable contribution to a dull and obscure portion of Indian History.—*The Academy.*

Students of Indian History, and especially those who are interested in the history of the Southern portion of the peninsula, would do well to read the essays by Mr. S. Krishnaswami Iyengar, which are collected together in his book entitled *Ancient India*. Mr. Vincent A. Smith contributes an Introduction praising Mr. Krishnaswami Iyengar's work, and praise from such an authority is sufficient warrant of the excellence of his historical deductions.—*The United Empire.*

yet to appreciate the benefits of the co-operative credit movement. His general ignorance of other handicrafts throws him idle when the land is lying fallow and a bad season completely breaks his back. His conservatism renders him almost incapable of assimilating new ideas about the improved methods of ploughing and the scientific process of increasing the fertility of the soil. Ideas of sanitation are alien to his mind and the rate of infant mortality in our rural tracts is disquieting. The unsophisticated country mind forms an excellent hunting ground for the village man and the Vakil's clerk who are notorious for their harassing tendencies. The root of all this is illiteracy and in the spread of education lies the only hope of emancipation.

It is obvious to every one that special measures have to be adopted in order that diffusion of enlightenment may be general, for the conditions prevailing among the rural populations are entirely different from those of the urban people who take to education readily. The chief causes that have till now retarded the progress of elementary education among the tillers have to be ascribed partly to the exclusive spirit of certain classes of the community and partly to the lack of any organised movement. There are however, special difficulties such as the father handing his occupation only too readily to his son whom he looks upon as an economic asset and the distance of the villages from the educational centres. The peasant can hardly appreciate the compensating advantages of temporarily sacrificing the monetary value of his boy's work in tending the cattle or helping him in the field, in order that the boy may receive an education which will better fit him to the

task. He is in considerable need of preaching and persuasion.

The Indian problem of mass education, which at bottom is the education of the peasant, differs widely from that of a country like England or Japan and does not admit of any useful comparison. A great part of our population is confined to the villages and in husbandry the agricultural labourer finds his sole occupation and interest of life. The village communities are broken up into innumerable sub-divisions of castes, languages and communal instincts. The solution of the problem should be based on the local needs and possibilities and any attempt to force foreign ideas on the untutored mind cannot but have the effect of producing a corresponding reaction. Our village tracts can be roughly divided into those where elementary schools exist already and others in which they have yet to be opened. There are two classes of the latter type; firstly areas large enough to provide sufficient attendance for the establishment of new schools, and others too small for such purposes. Such villages are in the ratio of 1 : 4, and the problem of the former is not beset with any difficulty; but the question of bringing the scattered hamlets under the educational influence is by no means so easy. I shall therefore confine my remarks in what follows to one of the three chief ways in which the problem may be solved, viz., the establishment of peripatetic teachers.

A modern peripatetic teacher does not represent the scholarship which distinguished his great forbear "THE VILLAGE SCHOOL MASTER." Our ambitious educational curricula demand an almost encyclopædic knowledge, a fair amount of scholarship in humanitarian studies, a decent acquaintance with the latest

developments of science and a perfect knowledge of the theory and practice of pedagogics and departmental rules and circulars. The picture is by no means over drawn; in our eagerness to uplift the masses we ought not to let our zeal warp our judgment. I should regard the following qualifications ample on the part of the itinerary master. He should be able to impart instruction in the three R's (vernaculars) possess sufficient knowledge of the history and geography of the province. His special qualifications should relate to his ability to impart instruction in the rural sciences, in addition to civics and general administration of the taluk and the district. The rural sciences include Nature Study, Agriculture, Domestic handicraft and the industries of the village. Though the array of the subjects appear to be formidable yet the range of knowledge required is not calculated to overtax the intellectual energies of an average teacher. He should be given facilities in the way of leave and scholarship, if necessary to attend the Normal Schools for a sufficient period at an interval of every two years. A scheme of this description has a double advantage, firstly a compulsory scheme of subsequent training will make the teacher up-to-date and prevent him from getting rusty,—a tendency to which he is specially prone in an out of the way station; secondly the lectures in the Normal Schools instead of being doctrinaire will tend to become more practical in the light of the experience of the mofussil masters. Further the suggestion will lead to establish an intellectual communion between the urban educational centres and the remote hamlets whose darkness is illumined by the lamp of knowledge carried by this educational apostle.

I have alluded to the necessity of recognising the differential treatment of the urban and rural areas for purposes of primary instruction, because of their wide divergence in their needs and scope. The system of peripatetic teachers owes its origin to the Sunday School movement in England, the underlying principle of which is to render it possible to impart instruction at least for one day out of seven to children otherwise remaining in absolute illiteracy. The movement has spread to other parts of the United Kingdom and to-day travelling teachers are found moving from one village to another with a small collection of books and other educational appliances giving instruction in all departments of useful knowledge. In our own provinces for a long time to come education has to be disseminated through such agencies rather than by the adoption of the compulsory system. In India circumstances are altogether propitious for the inauguration of a universal scheme of peripatetic teachers: though the same cannot be said of the other system. The Indian teacher can visit the scattered hamlets once in a week, gather the village children in a room improvised as a school building for the nonce, teach the three R's, the elements of agriculture and other handicrafts after he has checked the home exercises set in the previous week. A measure of this kind has the obvious advantage of giving some teaching in places where otherwise none would be given. The tiller will have no serious objection to spare his boy for one day in a week, but if the element of compulsion were introduced he will try to oppose the measure which requires attendance for all the working days of the week.

If the village headman could be won over to

the cause of education he would cheerfully place a room at the disposal of the itinerary teacher and provide such other facilities as he may require. As for the teacher's lodging there can be no trouble, for the village temple ought to provide a hospitable shelter to him. The local carpenter can be easily induced to make a present to the school of a few, simple articles of furniture that the scholars and the master may require. A simple arrangement of this kind obviates the expenses that might otherwise have to be incurred under the head of school buildings in the villages.

If a few of these capable teachers can be trained to practically demonstrate the use of the modern agricultural implements, their advantages over the time-honoured ones, give practical lessons to the parent himself, the sympathy of the husbandman to the interests of education can be easily enlisted. Once the rock-ribbed conservatism is pierced the cause of India's greatest industry, viz., agriculture is nearly assured. The Indian peasant is not less amenable to liberal influences than his congeners in other parts of the world and being disposed to take a matter of fact view of things around him, some measure of practical proof of skilled labour over primitive methods, would be found necessary to convince the doubting parent of the material benefit which his occupation will derive through his boy's education. If the public opinion of the village could be influenced to that extent the movement of compulsory education in India reduces itself to the question of money and time.

The establishment of travelling teachers even on a large scale in any province need not be a formidable financial problem. It might perhaps be desirable on the part of Government to provide every species of grant-in-aid

for the rural schools, so as to encourage the local men to come forward to open new schools or to take up the management of the Government schools. The money may also be obtained from the temple funds which were originally endowed by free grants from Government, or if the temple have ceased to fulfill the original intentions of the individual donors, the diversion of such funds for purposes of mass education may not amount to a culpable deviation in the muzarri policy of Government. The annual contributions by the devotees who flock to the principal shrines amount to incredibly large sums, and enlightened opinion at any rate, will not endorse the way in which it is all expended. Those who are acquainted with the history of our ancient Patasalas, which formed such necessary and important adjuncts to the temple on whose endowments they mainly depended for their support, will not be disposed to regard as revolutionary, the suggestion which advocates the utilisation of a portion of the temple money for the advancement of mass education. Our charitably disposed men and women,—a great part of whose money flows in futile channels to-day—have only to learn that providing means of education is the greatest religious obligation they owe to their less fortunate brethren, and funds will not be wanting for the suggested organisation. Such a recognition of the economic principle in all forms of charity must follow the wake of reform in our social ideas and our conception of civic duties. It is high time that our opulent landlords have to realise that the money spent on the education of their tenants and tenants' children is not ill-spent but contributes a profitable investment. Such duties on the part of the landlords have a high moral sanction and legislation on the sub-

ject must follow sooner or later as the democratic ideas spread in the land. Now, monetary help from all these sources will considerably release the funds at the disposal of the Government which may be devoted to increasing the efficiency of supervision and towards creating a bureau of expert advice on matters of technical and elementary education.

If education is to spread in the land, the leaders of public opinion in every village and taluk, ought to form what I would call "SCHOOL BOARDS" which will be the branches of a larger and more influential organisation in the district centres. The head of the district would be the president and all other executive, judicial and educational officers ought to constitute the members. The non-official opinion is represented on the Board by the leading merchants, landlords and traders. Even in Municipal towns the Boards should constitute a separate body in view of the fact that educational problems in general are becoming increasingly complex. The functions of these Village Boards would be to supervise unofficially,—the members going out in turns—the work of the peripatetic teacher, or the schools within their jurisdiction, collect subscriptions for instituting attendance scholarships to the children of such parents as really make a sacrifice by sending them to schools, distribute clothing, books, slates and pencils to the schoolchildren; arrange with the Village Head Man to feed such scholars as come from a distance; organise the celebration of important events, like the Empire Day, Delhi Durbar Day, Our Sovereign's Birthday and so forth; hold annually the prize-distribution ceremony to all of which functions the parents of the children may be invited. In brief their exertions will

be to popularise and make elementary education attractive and useful to the village community. The Board ought to form a connecting link between the villagers on the one hand and the District School Boards on the other. The latter would collect statistics and constitute an advisory body to the Educational Department. In other respects their functions ought to be similar to those of the Village or Taluk Boards, but only on a wider scale. The rich landlords serving on the Board can easily persuade their tenants to send their children to the school and I have no doubt that none of the landlords will shrink even if they have to maintain them at a small cost, in the way of clothing and feeding them: for they ought to appreciate the fact that their own prosperity is identical with that of the agricultural labourers. If measures of this kind prove successful in selected areas, then it would be time for Government to hand over the burden of education to the people, and assist them by framing generous grants-in-aid, supply expert advice *gratis* and supplement their other educational endeavours by instituting travelling libraries and moving demonstration classes.

In all our elementary schools whether permanent or occasional such as those held by the travelling teachers, education must be free: but whether it should be universally free is a question to be solved by the discretion of the Board. Where voluntary subscriptions are not forthcoming in sufficient amounts, the fees collected from the children of rich parents ought to provide the attendance scholarships. There is absolutely no point in making education indiscriminately free to the rich as well as to the poor. The subject of free education naturally leads to the question of compulsion on which some of our eminent leaders have set their heart. Those who are acquainted

with the Education Act of 1870, will remember the amount of popular opposition that compulsory education evoked in England, and how it was responsible in overthrowing the Government which was instrumental in placing the Act on the Statute Book. If after nearly a century of educative work, during which period the public opinion in England was continually influenced in the direction of compulsion, the populace should have resented the measure, our leaders and enthusiasts will do well to note the brief lesson of the Latin poet elaborated by GOETHE in his famous lines :

"Stumbleth he who runneth fast,
Dieth he who standeth still,
Not by haste nor by rest,
Man can his destiny fulfill."

The path of compulsory education must be paved by the Boards among whose members ought to be found people who can influence the peasant mind. On the recommendation of the Board, Government may introduce compulsion in such areas in which not less than three-fourths of the parents of the children of school-age are prepared to bring them under primary instruction, provision having been made to place within easy distance of all the boys, the school or the centres visited by the travelling teachers.

Legislation of compulsion affecting any district ought to be based on the recommendation of the Board and not otherwise. The obvious advantage of such a procedure is to secure the support of those who are naturally placed in a position to influence the masses and follow the lines of least resistance, by the opposite method of imposing coercion by disciplinary measures, may run the risk of begetting in the peasant mind a dislike for education. The Police officer is not the

person to assist in the spread of elementary education.

The course of instruction adopted in these schools should have reference to the economic requirements. The peasants and their children should get sound instruction in the principles of agriculture such as the nature of different soils, irrigation and drainage, ploughing, sowing, manure, agricultural implements and the breeding of cattle. The officers of the agricultural department might deem this their legitimate province and no harm will come if the itinerant teacher should now and again trench upon it. If by some mutual understanding, the Educational and Agricultural Departments can depute their respective officers to co-operate in the village schools the results ought to be most gratifying. The two departments can issue manuals in which are treated subjects like seed testing and seed selection, methods of wet cultivation of produce like rice and wheat and dry cultivation of crops like cereals; useful or injurious insects and remedial measures; the principles of breeding, poultry farming as industry, care of fruit trees, agricultural economy, and co-operative credit societies, comparative advantages of the different types of agricultural implements and so forth. The other manual will include lesson on subjects like morals, civics, industries of towns and other useful information. This is not purely literary education and if a workshop can be attached to each school or in any convenient centre common to a group of schools, the peasants, the handicraftsman and the labourer will be glad to send their sons to receive practical instruction in the handling and repairing of tools side by side with a scientific training in their important occupations. Periodically the District officials in the course of their visits

should arrange for demonstration lessons for the benefit of the parents who will have an opportunity of witnessing the skill and knowledge displayed by their children. This is what is meant by making education attractive to the populace and if the peasantry should develop faith in the benefits of education we need not have recourse to compulsion.

C. R. NARAYANA RAO.

THE TAMIL LEXICON: A REVIEW.

(By MR. T. G. ARAYAMUTHAN, B.A., SENIOR
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The Tamil Lexicon Committee has amply fulfilled the expectations of the public. No one ever hoped that the Committee would be able to turn out a piece of satisfactory work, and the Committee has managed to justify even the most cynical of forecasts. Though much has been written about the defects of the Lexicon, the public is not likely to have understood the extent and the magnitude of the defects which an examination of the work of the Committee shows. We purpose below to place the finger on some weak points in the four-page specimen which the Committee issued some time back. Our intention here is not to indicate the aimlessness and the futile methods of the Committee, though the Committee has followed its own bent of mind with peculiar unresponsiveness to public opinion and with total disregard of the needs of the public. We shall attempt here nothing more than to show how ill the Committee has worked in the very limited field which it set for itself.

The Lexicon places 'Hybrid' and 'South Indian Inscriptions' under 'Root languages.' Is this not as it ought to be?

There are three printer's errors in four pages

of a work which should be distinguished for its freedom from any such defect.

The Tamil words are transliterated into English; no wonder the Committee feels that four years and a lakh of rupees would be insufficient; if a European cannot learn without the aid of transliterations a language like Tamil which is spelt almost phonetically, the sooner he gives up learning the language the better would both be himself and the language be. In two instances out of three in which *ḡ* appears in the vocabulary the letter is wrongly transliterated. In two cases the transliteration misrepresents the length of vowels. The transliteration of *akkasalai-y-ar* fails to give recognition to the consonantal *y* sound in the word. Different symbols are made to stand for sounds of the same kind; the *தி* in *பதிற்பு* *பத்து* and the *து* in *மதுரைக் காஞ்சி* receive different symbols; while *T* begins the transliteration of Thiruvachakam and Thirumandiram, *D* begins that of Devaram; the *தி* which comes twice in Sivajnanasithiyar is given a different symbol on each occasion; *அக்கினி* when it means "Saltpetre" is transliterated as *akkini*, but as *agni* when it means the god Subrymanya, though in *அக்கினிகர்ப்பன்*, a name of the same deity, the transliteration is *akkini again*.

The pronunciation which the Lexicon seeks to record is not satisfactory in at least one respect. The consonantal sound *க்* 'when soft,' is represented by a peculiar symbol,—a modification of *h*—and after *ய* by *g*. When we see that the consonantal *க்* sounds in *அக்கினி* 'குண்டம், அக்கினி 'கு'லம், அக்கினி 'கோ'ணம் and அக்கினி 'கோ'த்திரம் ('oblation to *agni*') are represented by this *h*, and in *அக்கினி* 'கு'மாரன் by *k*, and in *அ'க்* கண், *அ'க்* ப்படு and *அ'க்* திருமம் by this *h*, and *அ'க்* ப்பத்தியம் and *அ'க்* ப்பற்று by *k*, and when *அ'க'கை* is given as '*ahankai*' and *அக'க'ரம்* as '*ahangaram*,' we are at a loss to learn where the Lexicon got its pronunciation from. While in the majority of cases the strictly Tamilian forms

alone of Sanskrit words are given, there are some words like *akkini-nakshattiram* and *akkini-parikshai* in which *ksh* is allowed to appear. Unmindful of the word for 'disease' being *Roga* in Sanskrit the Lexicon gives *Roha* as the form of that word in *akkini-rogam*.

Let us now take up for consideration the meanings given to the words by the compilers of the Lexicon.

They have failed to collect all the significances in which a word is used. An instance or two will suffice. The word அக்காளன் is often popularly used to indicate the goddess of evil; but this signification has not been noted though it is given under the much rarer form *akka devi*. Now and then people use the word *akkusai* to signify 'concern'; this has not been recorded by the Lexicon. The usage of அகண்ட in the word *akanda-kaveri* has not been brought out; it will in fact be interesting to learn what significance the compilers would attach to the word; does it mean the broad Kaveri, the perpetual Kaveri, the entire Kaveri, or the undivided Kaveri? An Indian scholar notes that *akkini-salam* is the name of a plant; this meaning does not appear in the Lexicon. Is it enough to say that *ahappura-pattu* is 'a poem'? Does *agni-panchukam* mean 'an inauspicious day'; is it a portion of a day or an entire day; does it not mean also 'danger of fire'? *Ahattiyanpalli* is said to be "a Savite temple in Tanjore, where Devarams are sung;" we shall not ask whether *where* does not refer to Tanjore, and whether *in which* is not what is required to express the writer's meaning; we shall only ask if the writer thinks that Devarams are sung in that temple alone in all South India. The Lexicon gives the meaning of அகணிசம் as 'beyond computation', and labels the word a noun; this is indeed heaping not only injury but insult on the poor word. Orthography was counted by our ancestors as one of the sixty-four branches of learning; in giving the meaning of the word *akkara-v-illakkanam* the Lexicon

gives 'Orthography' as one significance, and 'one of the 64 arts' as another; the same treatment has been accorded to the parallel word *akkini-tambam*; at this rate, there can be no end to the number of significances we would get. It is distressing to see the various meanings of *akku* being given now in the plural as 'beads or rings' or 'cories', now in the singular as 'an ox's hump' or as 'bone', or again in the plural as 'aloes', or once again in the singular as 'poison nut.' In giving the meanings of *akkini-piravesam*, the Lexicon begins by giving 'Sati' as the first equivalent, then 'ordeal by fire on the part of a woman to establish her chastity' as the next, and there comes last 'walking through fire as a religious act'; it will be noticed that there is no order observed in the noting down of the various meanings, and the usual practice which is to give the primary meaning first and then the secondary meanings in order of growth and extension has not been followed. Further, it is much to be doubted if Tamilians use the word *akkini-piravesam* by itself to convey the idea of an ordeal or of Sati; do we not rather add other words when we have to convey anything more than the primary meaning which that word by itself gives, as when we say, for example, that 'Sita entered the fire and established her chastity—சீதை அக்கினிப் பிரவேசம் செய்து தன் தூய்மையைக்காட்டினாள்.' It is unfortunate that the Lexicon renders words like *ahattidu* into the infinitive form; the above word, for instance, is rendered into "to insert, to embrace;" but by those who know Tamil these equivalents would be associated not with *ahattidu* but with its infinitive form *ahattida*.

As the Lexicon in some cases gives together the meanings in English and Tamil it may be useful to inquire how far the English definition bears out the Tamil definition. 'Conditions, terms of agreement' are said to be the senses in which *akkuttu* is used, and பொருத்தம் is given as the Tamil equivalent; but palpably the Tamil word means merely 'agreement' and not the terms or

the conditions which procure or secure the agreement. While the English rendering of *ahrinai* is 'Names of the inferior class, whether animate or inanimate,' its Tamil rendering is what may in English be put down as 'that which is not the superior class;' the former refers to the name, while the latter has reference to the substance itself which bears the name. In the time of Thiruvalluva there was a gentleman *Akkarakkaninachumanar* by name; the Lexicon sets out to tell us in English that he was a poet and ends by telling us in Tamil that he was a *pulavar*, a scholar. *Akkinitoma* is represented in English to be 'a protracted sacrifice of the Jyothishtoma,' but in Tamil it is expounded by what may be translated as 'a sacrifice which is a part of the Jyothishtoma.' While அஞ்சு is what expresses அக்குகு in Tamil, English requires an additional idea to be imported so that the meaning may be 'To shrink from modesty.' Let him explain these discrepancies who can. When we find அகநகை interpreted into 'inward derision' and into இகழ்ச்சிக்கிரிப்பு we must confess that we are guilty not only of feeling inward derision but also of bursting out into uncontrollable peals of இகழ்ச்சிக்கிரிப்பு. The word அகநகை is rendered in English into 'the interior of a fortified town,' and in Tamil into கோட்டைக்குட்பாகம், that is, 'the interior of a fortress'; but the compilers evidently did not notice that a fortress need not necessarily be a fortified town.

We shall now throw some three fresh items into a separate paragraph. Was it not a moment fraught indeed with felicity which inspired the valiant compilers to render அக்கப்போர் into 'a neighbourhood quarrel' and உட்சண்டை? What indeed does it matter if 'neighbourhood quarrel' is not good English or if either of these expressions does not express even a portion of the meaning of this word, or if the two are mutually destructive? Bravo! The Valour of Ignorance can go no further! The sage Agastya is represented by the Lexicon to have among other things

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'crossed the Vindhya-mountains,..... directed the course of the river Tambaraparani and Kaveri (and) taught 12 disciples in Tamil'? Now, we know that this sage was a sort of chap,—up to all manner of tricks, but we never before knew that in his march south he met the Tambaraparani first and the Kaveri next; nor does the Committee know whether he taught Tamil, or taught in Tamil. Our Lexicon, following its predecessors, records two names, Akkuran and Akkururan: the older dictionaries make the latter the Prime Minister of Kamsa, and the former 'one of the seven of the second class of almsgiving princes, இடையெழுவள்ளலி லொருவன்.' Our Lexicon makes Akkururan the uncle of Krishna, which indeed he was, and makes Akkuran 'a Yadava chieftain famous for his liberality.' As we had never before heard of Akkura having been 'a Yadava chieftain,' we looked up Dowson, Garnett, Sorensen, the Abithana-Chintamani, the Sabdakalpatharu, and other similar works, but were not able to learn anything more than that he was famous for his liberality. We are not able to account for the Lexicon calling him a Yadava. Will some lover of the obscure throw light on this point? One word of warning, however. Let him not, remembering the words of previous Lexicographers, be misled into thinking that the compilers of our Lexicon took hold of the first word in இடையெழுவள்ளலி லொருவன் and ignorantly interpreted it as indicating a Yadava.

The quotations which the Lexicon makes a show of including are too few and are often used where they are not needed. The chronological arrangement of quotations has obviously not been even thought of; the Committee has evidently not grasped that one of the main purposes of quotations is to show the growth in the meaning of the words; on no other hypothesis can we understand the presence of no more than one quotation to support a particular significance of a word. The quotations are often clipped too

short to serve any useful purpose. Even when quotations are given, the exact reference is not given sometimes; a mere indication that the word comes from Pirapulingalilai or Thevaram is not enough for purposes for which quotations are wanted.

The Lexicon avoids giving the derivation of difficult words. We expected the Lexicon to tell us something about the etymology of *akkuttokku*, but the Lexicon is silent on the point, and probably we had no right to form the expectation. The Lexicon gives us the words *akkāram*, *akkāra-vadisil* and *akkāradalai*, which are in some way connected with sugar, but fails to suggest, even remotely, the possibility of these words being related to the Sanskrit word *kshara* ('treacle' or 'molasses'). The word *akkappadu* which is composed of *akkam* and *padu* is said to denote 'disaster at sea,' but neither under this compound word itself nor under *akkam* do we find any hint as to how this word came to have this meaning attached to it. Though the words *akkanā*, *akkandam* and *akkāttān* are said to denote the same thing, we are not told what the root is from which these words spring. The word *akkarai* ('the further shore or bank') is put forward as derived from the Malayalam *akkara*. The Sanskrit word *arka-Sālā* is printed in the Lexicon as if the final vowel were short. A relationship is established between the *akka* ('elder sister') of Tamil and the *akka* ('mother') of Sanskrit, in spite of the fact that one at least of the Committee should, having revised *Caldwell's Comparative Grammar*, have known that the identification is not free from doubt or condemnation. If, however, the Committee thinks the identification to be an unobjectionable one, we would respectfully suggest it to the Committee to derive *அக்கா* which it renders into 'wife' from the colloquial word *அத்தா* which means 'mother'; the identification would be quite as apt, as that which by bringing together the Sanskrit *akka* and the Tamil *akka* rolls up mother and sister into one. The philological wisdom of the compilers may be

judged from the fact that *gu-jalam* is said to be a hybrid word. By what process of reasoning the Committee came to class *agattiyam* ('Agastya's Grammar') among hybrid words we cannot divine; in Sanskrit, the word ought to be *āgastyam*, and when it appears in Tamil the initial consonant is shortened; but does this shortening make the word hybrid in origin? A hybrid word, we have it on high authority, is 'a composite word formed of elements belonging to different languages'; what are the different lingual elements, pray, as the result of the combination of which the word has been detected to be a hybrid? The word *ahasu* is traced to Sanskrit *ahar*: a reference to the Sanskrit Dictionary of Monier-Williams shows that *ahas* and *ahar* are the usual forms when in Sanskrit the root appears as the first member of a compound, but that the 'nom. acc. voc. sing. and the middle classes, come from *ahas*'; why then should the Lexicon prefer *ahar* to *ahas* as the parent of the word *ahasu*? The Lexicon tells us that *அகத்தியம்* when it means 'necessity' is the classical form and that *avasiyam* is the form which is in usage, that is, is the colloquial form; not all the authority of the Committee would make the Tamil form the parent of this Sanskrit word. Words the spelling of which is similar are coupled by the use of numerals, though the words may have come from different sources; *akkarai* (1) means 'concern,' but *akkarai* (2) means 'the further shore'; *akkam* (1) is doubtfully traced to Sanskrit *atarka*, while *akkam* (2) comes from Sanskrit *aksha*; *ahattiyam* (1) means 'necessity, whereas *ahattiyam* (2) means a Tamil grammar; it is a pity that words so unconnected with each other should have been represented by the use of (1) and (2) as different forms of the same word.

The Committee has made it known that it has collected words which are not to be found in Winslow; but in the four pages that we are now reviewing the omissions include words like *agni-pathasilandi*, *akali*, and *akkurukki*, the last of

which is to be found in Winslow, and the two others in other easily accessible dictionaries. If the Lexicon is to record separately the form *akkanam* ('that moment') which is the result of the simple combination of *a* and *kanam*, where does the Committee intend stopping and when does it expect to complete its work? The word *akkinicilam* is given as *akkinic-calam*, and *Roga* ('disease') is spelt *Roham*.

There are two cases in which the quotations would not support the inferences drawn. The word *akku* ('the seed of the *Elæocarpus*') which comes from Sanskrit *aksha* is exemplified by a quotation which runs as *akkai-y-anindavar*; since, however, the form in the quotation may be reached by splitting the words up either into *akku* and *ai* and *anindavar* or into *akkai* and *anindavar* without infringing any grammatical rule, and since it may be argued that the Sanskrit *aksha* would take the form *akkai*, when it appears in Tamil, just as some Sanskrit words ending in short *a*, like *charita* and *akshata*, appear as *charitai* and *akshatai*, we would put it to the Committee whether it thinks that the quotation it has subjoined would unequivocally support the form of the word which it puts forward. The Lexicon exhibits *ahangaram* as another form of *ahingāram*, on the strength of a line from 'Gnanavasittam'; an examination of the stanza shows that the form with the long vowel appears twice and the form with the short vowel appears once, and that the vowel in the third instance, if it were long, would not fit the metre; is not the natural inference that the shortened form is not necessarily a distinct form of the word but that the vowel has in that line been shortened to meet metrical exigencies? We suggest here nothing more than that the quotations have been chosen with little discrimination.

What shall we say of the English for which the Committee is responsible? 'A poem written with a play on words by elimination, as in *kanakari*, *nakari*.....' and 'beginning the letters at the age

of five with appropriate ceremonies,' are fair specimens of the English and of the powers of elucidation of the compilers. 'Inside and out' is said to be the equivalent of *akkampakkam*; probably the Committee meant 'inside and outside.' The word *akkam* which in Tamil means *உள்* is translated in English into 'inside'; school-masters in olden days used the birch without stint when in such cases their pupils did not write, 'the inside.' The word *ahani* is interpreted in Tamil to mean *உள்* and in English to mean 'what is inner'; even if we assume that the Committee meant to say *உள்ளிருப்பது* we cannot bring ourselves to contemplate with equanimity the substitution of 'what is inner' for 'what is in.' Will some scholar tell us,—and tell the Committee too,—'if neighbourhood quarrel' is idiomatic English? The Lexicon interprets *aha-nadu* into 'the head-centre of a territory'; conscious of having never come across this use of 'head-centre,' we turned to the Oxford Dictionary for guidance; the only usage of 'head-centre' which is noted by that Dictionary is its having been used as 'the designation of a leader of the Fenian organization, and it knows nothing of such a usage as that which the Committee has sanctioned. The public thought that the forte of the Committee would be its knowledge of English, but it is a pity that better English has not come from a Committee which consists of two gentlemen whose mother-tongue is English, one gentleman who is reputed the happy possessor of faultless English, and another who has put forth much prose and verse in English and has received appreciations from men of the eminence of Lord Tennyson.

Such is this Lexicon which is to be brought out under the guidance of the University, which is to do much for Tamil, for which the Tamil world is to wait and for which we are to be thankful to our Government and to the Committee. These four pages, which we have now reviewed, appear to us like the distant tiny speck which in the process of time reveals itself as a portentous comet, and we

admit we tremble for the future of the language quite as much as the superstitious savage does at the approach of an ill-omened visitor from space. We have shown how mirth-provoking the mistakes of the compilers are. The unconscious humour of the compilers of this Lexicon has made the conscious humour of Swift and Rabelais pale into insignificance. We commend these four pages to gentlemen who are in need of relaxation and innocent amusement. A lakh of rupees spent on the preparation of such a Lexicon cannot be a waste. The Committee has brewed a viler compound than that which the Witches of *Macbeth* manufactured, and a lakh of rupees is not too high a price for such a rare decoction.—*The Hindu*.

THE PLACE OF ELEMENTARY MATHEMATICS IN THE S. S. L. C. SCHEME.

THE place assigned to Elementary Mathematics in the S. S. L. C. Scheme has been undermining the prospects of many a student. It has obscured the principle of specialisation, one of the brilliant characteristics of the School Final Scheme. It has let in by the back door all the evils which the new system has sought to drive away through the front door. One may at the outset be carried away by the notion that all these are hasty generalisations but the writer begs to observe that in this age of utilitarian calculations, these reflections are, fortunately or unfortunately, felt to be too true.

Elementary Mathematics has proved a hardship to students taking up History or other non-mathematics subject in the C. Group. They have to devote a good deal of their precious time to the study of a subject for which they have no special aptitude whatever. Even though they get excellent marks in English and the C. group subjects

in the public examination, their happening to get a low mark in Elementary Mathematics has been barring their admission into the Intermediate class. There has of late been issued by the Syndicate a circular to the heads of colleges "that they should see if a candidate seeking admission into the Intermediate class had obtained good marks in Elementary Mathematics." One is at a loss to understand how a proficiency in Elementary Mathematics will be of any value to students that seek to specialise in Histories, Vernaculars and Logic. However, the gates of the Intermediate class are being closed against the poor history students for the simple reason that they fail to get "a tolerably good number of marks in Elementary Mathematics."

Again, heads of offices who have to select candidates for filling up vacancies, are found to be equally harsh to the poor history students seeking Government service.

Optional Mathematics students, unlike those that take up history in the C. group, find it easy to get the required pass marks in the elements of the subject in which they specialise. That Optional Mathematics students get better marks in Elementary Mathematics than History students needs no special proof; for it is quite natural that they should score out better marks. But it must be remembered that the number of Optional Mathematics students is comparatively smaller than that of those who select History or other non-mathematics subject in the C. group. As such, one fails to appreciate the advisability of undermining the prospects of the majority for the sake of the minority.

One of the objects of the School Final Scheme is, I believe, to do away with the evils

of the old regime when students appearing for the Matriculation Examination were expected to pass in all the subjects whether or not they had a special taste for them. Many promising students with a fair knowledge of English and Histories and Science were either scared away from the public examination altogether or had to colonise the Matriculation class for at least half a dozen years on account of this bugbear of Mathematics. The School Final Scheme with all its liberalism in advocating the principle of specialisation and thereby seeking to rectify the evils of a past curricula of studies, has after all revived the selfsame evil in the new shape of Elementary Mathematics.

Optional History students are obliged to earn some special minimum in Elementary Mathematics in order to complete their certificate and get a seat in the Intermediate class. They are to forego much of their precious scope and opportunity for specialising in their chosen field, in being obliged to be well-up in Elementary Mathematics—a subject on which most of them have nothing but step-motherly affection to bestow. The time such students spend in the study of a subject unprofitable to them in the long run can be better spent in specialising in their own subject. One of the reasons why the supplementary classes are being inordinately swelled year by year can be sought in the place assigned to Elementary Mathematics, which has been obscuring the advantages of the landable scheme of specialisation in the School Final System.

A few remedies to rectify the existing state of affairs, I beg to suggest.

Let me not be understood either to have ignored the educational value of Mathematics or to have been suggesting an abolition of the

subject altogether from the S. S. L. C. Scheme. My aim is to untie rather than cut the Gordian knot. As such, I beg to propose that the subject of Elementary Mathematics may be safely relegated to the B. Group which is an unfailing source of fostering the disciplinary value of most subjects, especially of a subject like Elementary Mathematics.

If it is persisted that Elementary Mathematics should continue to occupy the place now assigned to it, I have the following practical suggestion to make by way of obviating to some extent the evil pointed out.

Let the student choosing History or a non-mathematics subject in the C. Group, after coming out successful in A and C group subjects, be allowed to proceed to the Intermediate class or be declared to have completed his certificate, provided he gets—say $\frac{1}{2}$ the Presidency average mark or a percentage lower than that expected of an Optional Mathematics student, whichever is better—in Elementary Mathematics.

I leave it for experienced and veteran educationists to accept these remedies with amendments, if necessary, or devise fresh suggestions suitable to the gravity of the situation.

G. SATYANARAYANAMURTI.

THE QUESTION OF THE ANUSWÂRA IN TELUGU.

THE Andhras are now emerging from a long period of sloth and slumber. Everywhere here are signs of fresh life and activity. The thirst for knowledge in its various branches is growing by leaps and bounds. The masses are crying for a wider diffusion of knowledge and the leaders are not slow to

recognise the legitimacy of their demands. The fortunate few who have an easy access to the Western sciences are trying their utmost to bring within the reach of every individual their wealth of knowledge. The works of the Western scholars and the Eastern sages are either bodily translated into Telugu or adapted into that language. The only science which does not seem to have attracted the attention of a good many Telugu thinkers is the Science of Phonetics as applied to Telugu. We say "a good many" because we find only a solitary soul crying for the cause of Telugu Phonetics.

The only change necessary in the Telugu script is according to this solitary soul—Mr. Akkiraju Umakantam—the change affecting the position of the *Anuswāra*. His contention is but legitimate. Properly speaking, the *Anuswāra* has been unnecessarily allowed to enjoy a privilege to which it has no right whatever. According to Panini, the *Anuswāra* in a word is highly influenced by the succeeding consonant. If the consonant following the *Anuswāra* be a member of any one of the five *Vargas* క, య, ల, వ, శ, the *Anuswāra* is then changed into the corresponding nasal of the *Varga*. This is a scientific fact. This change leads to an easy pronunciation of the word. For instance కంక is pronounced as కంక, కంజ as కంజ, మంబ as మంబ, ఎంత as ఎంత, కంప as కంప and so on. In these cases there is nothing wrong as far as the pronunciations are concerned. The defect lies in the script. If the pronunciation has to conform itself to the script, and if the *Anuswāra* is to have its proper sound as is generally understood, the above words must respectively be pronounced as కంక, కంజ, మంబ, ఎంత, కంప and so on. With the

exception of the last we find the words are difficult to pronounce. The vocal organs must adjust themselves, in the twinkling of an eye, for two distinct sounds, produced in two different places. If the *Anuswāra* be dispensed with, and be replaced by its scientific substitute *wherever possible*, much of this difficulty is got over. Even in the case of క, య, ల, వ the influence is clearly seen. But Panini himself is of opinion that the case of క, య, ల, వ is not as strong as that of the members of the five *Vargas*; and so he has dictated an option in the case of క, య, ల, వ. If the *Anuswāra* be followed by క, య, ల, వ, it is either changed into a nasalised క, య, ల, వ, or it retains its original form. Since we have no symbol to represent the nasalised క, య, ల, వ, or వ, it is better for us to keep to the second option. As for శ, ష, స, or ష, the *Anuswāra* remains unaffected, if followed by it. This is the scientific view of the question of the *Anuswāra*, and it is hoped that the thoughtful Telugu scholars will pay it the recognition it deserves.

K. KRISHNAMACHARYA.

LIBRARIES AND BOOKS.*

CARLYLE was certainly right when he defined a modern University to consist of a library of good and up-to-date books. Besides extending the bounds of knowledge and turning out specialists, a University must have for its object the spread of popular culture, and bringing it down from the closet of the philosopher and the seclusion of the sage to dwell amidst the haunts of men in

* A paper read by Mr. P. A. Subramania Iyer on the occasion of the opening of the 'Ananda Library,' Tenali, on the Telugu New Year's Day.



literary clubs and people's associations. And truly no agency is better fitted to secure this end than the throwing open to the public of a library well-stocked with useful books. Here people of different temperaments and tastes may meet and draw alike inspiration, hope, wisdom. The dreamy philosophising man with his eye fixed on worlds unrealized and musing on 'Man and Nature and God' may find in Wordsworth a kindred spirit and feel his heart throb in sympathetic response as he reads

"I have learned

To look on Nature, not as in the hour
Of thoughtless youth, but hearing oftentimes
The still sad music of humanity,
Nor harsh nor grating, though of ample power
To chasten and subdue. And I have felt
A presence that disturbs me with the joy
Of elevated thoughts; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean, and the living air,
And the blue sky, and in the mind of man;
A motion and a spirit that impels
All thinking things, all objects of all thought,
And rolls through all things. Therefore am

I still

A lover of the meadows and the woods
And mountains, and of all that we behold
From this green earth; of all the mighty world
Of eye and ear, both what they half create
And what perceive; well pleased to recognise
In nature, and the language of the sense,
The anchor of my purest thoughts, the nurse,
The guide, the guardian of my heart, and soul
Of all my moral being."

Here the sturdy fighter of the world's evils may nerve himself to enthusiasm, hope and courage by holding communion with kindred spirits. Which reformer, we may ask, will feel despondent or fear failure when he hears William Lloyd Garrison, the liberator of the slaves of America, proclaim in trumpet-tones

"I am as harsh as truth, and as uncompromising as justice. I am earnest, I will not equivocate, I will not excuse, I will not retreat a single inch and I will be heard"? Here again the ardent and impatient idealist with his apriori notions of 'equality, fraternity, and liberty' who would throw everything into the melting pot and begin reconstruction of society anew will, like the people of France at the beginning of last century, learn to moderate his enthusiasm and understand that man is not 'an animal rationale, a logically and rationally self-sufficient being' able to cut off at a moment's notice all his old moorings, but the creature of historical environment, the expression, so to speak, of centuries of progressive evolution, that he can no more be taken out of that environment than a fish out of its element, and that the world's advance, as George Meredith puts it, is 'like the way of worms'.

More than all these, this will be the place where the hard-worked and toil-worn public officer, lawyer, merchant or schoolmaster will find rest, relaxation, amusement, or it may be, comfort, consolation, hope. To come after a hard day's work full of its own little worries, vexations and anxieties, and forget them all, in the company of some good author is delightful indeed! To laugh at the follies of Pickwick and Sam Weller and all that glorious band of well-meaning but blundering and mirth-provoking creations of immortal Dickens; to grow serious when Paul Dombey says to his purse-proud father, "It, as you say papa, money can do everything, why did it not bring back my lost mamma?"; to glow with joy and feel an exhilaration of spirits when after years of patient striving and silent self-sacrifice Captain Dobbins finds peace and rest in the bosom of Emilia; to

listen to the simple wisdom of Dolly Winthrop as she says, "Eh, there's trouble in this world, Marner, and there's things as we can niver make out the rights on. And all as we've got to do is to trusten, Master Marner—to do the right as fur as we know, and to trusten"; to feel all your paternal instincts rise in you when Mr. Tulliver who has peremptorily ordered his sister to return the loan of money go back to her and say, "No, Gritty, no, don't you fret—that's all—I'll make a shift without the money a bit," thinking that somehow if he were hard upon his sister *now*, his own son might at some day be hard upon his dear daughter, Maggie; to be moved to melting pity at the heart-piercing cry of Macbeth when at the close of a murderous career he finds all anticipated joy and pleasure slip through his fingers leaving behind nothing but blank vacancy, horror and remorse and says to his physician,

"Canst thou not minister to a mind diseased,
Pluck from the memory a rooted sorrow,
Raze out the written troubles of the brain,
And with some sweet oblivious antidote
Cleanse the stuffed bosom of that perilous stuff
Which weighs upon the heart?"

or to feel that the poet is only voicing your inmost thoughts when he says,

"A dreary place would be this earth
Were there no little people in it;
The song of life would lose its mirth
Were there no children to begin it;"

—to grow through these experiences is indeed a rare privilege and, if we are really earnest about it, it may be had here.

I may be permitted at this point to refer to a particular class of persons by whom more than by others I should like the advantages of a public library of this kind be availed of very largely. There are among us many men (and their number is increasing every

day) who call themselves 'practical' men or men of the world. They profess no faith whatever in the moving power of ideas, sentiments or ideals. The optimism of a Browning or the idealism of a Shelley means nothing whatever to them. They believe that in this world it is impossible for a man to be absolutely honest and straight in his dealings. Absolute truthfulness and goodness do not pay, say they, unless they be seasoned with a little bit of their opposites. To their credit, however, it must be said, many of them while at school or college read Shakespeare and Ruskin, Comte and Mill and professed themselves full of enthusiasm for humanity. A few hard knocks from the world have caused them shed all their enthusiasms, filled their minds with an utter distrust of all the things of the mind and driven them to confine themselves in the dry shell of low prudence and soul-killing cynicism. 'Putting more faith in lies and hate than truth and love,'

"They pass me by like shadows, crowds on crowds,
Dim ghosts of men, that hover to and fro,
Hugging their bodies round them, like thin
Wherein their *souls* were buried long ago:
They trampled on their youth, and faith and love,
They cast their hopes of human-kind away,
With Heaven's clear messages they madly strove,
And conquered,—and their spirits turned to clay.
Lo! how they wander round the world their
grave"

Whose ever-gaping maw by such is fed
Gibbering at living men, and idly rave,
"We, only, truly live, but ye are dead."
Alas, poor fools, the anointed eye may trace
A dead soul's epitaph in every face."

Gentlemen, we can imagine no worse tragedy in life than this negation of the value of thoughts and ideals as motive forces in man's life. But it is necessarily a stage through which all thoughtful men pass. It was while in some such moods of mind

that Shakespeare wrote his *Lear*, *Hamlet*, and *Macbeth*, and Carlyle passed into the land of the 'Everlasting Nay.' These great souls, however, soon outgrew those habits of mind, and Shakespeare then wrote his *Winter's Tale* and the *Tempest*, and in the person of the Duke gave out to the world that he could 'find tongues in trees, books in the running brooks, sermons in stones, and good in everything.' Carlyle too passed into the land of "The Everlasting Yea," and exclaimed, "close thy Byron, open thy Goethe." Not so, our friends, the cynics, however. Mistaking the wayside inn for the Mansion at the end of their goal, these sit down and munch placidly and have nought but good-humoured contempt for all who do and dare in the belief in the divinity of man and the unlimited possibilities of spiritual development that lie before him. Surely, gentlemen, this is indeed very cheap wisdom, and on account of its very cheapness is so tempting to all. Nevertheless to lose faith in goodness and to look on the world as nothing but the warring place of souls each striving to outdo the others in wickedness and wile—this is indeed spiritual death. And the only way of escaping this death is habitually holding communion with those great master-minds who have 'seen the universe truly and seen it whole,' who do not, of course, deny the existence of much that is sad and saddening round about us, but see also a great deal more to fortify us with hope and high resolve and passionate yearning for all that is 'true and holy and of good report.' Communion with these minds for at least half-an-hour a day will help us 'cleanse the stuffed bosom of the perilous stuff' these, our cynical friends, are full of—and what is better calculated to effect this purpose than a good public library?

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There is yet another consideration why movements of the kind we are now inaugurating should spread everywhere. "They are," as Disraeli said years ago to the members of the Manchester Athenæum, "part of that great educational movement which is the noble and ennobling characteristic of the age in which we live.....Heretofore society was established necessarily on a very different principle to that which now exists. As civilization has gradually progressed, it has equalised the physical qualities of man. Instead of the strong arm, it is the strong head that is now the moving principle of society. You have dethroned Force, and placed on her high seat Intelligence, and the necessary consequence of this great revolution is that it has become the duty of every citizen to cultivate his faculties."

Acting on this principle and realizing that the efficiency of the State depends upon the efficiency of the individuals that compose that State, the foremost nations of the world have made education compulsory for all the young under their care. The demand for 'Equality' advanced by the French Revolutionists has been interpreted to mean not that the State should recognise that every man is the equal of his neighbour in all respects, but that every man has a right to claim the same *opportunities and facilities* for advancement as his neighbour. Germany and America are the countries where effective means have been employed for the realization of this principle, and not only Elementary Education but Secondary Education as well is free and compulsory in these countries. In England also all boys and girls should compulsorily attend school till they are 14 years old. But Englishmen are not content, and we are told that in a short time a larger programme of

educational expenditure will be adopted with a view to make the average British citizen better fitted to fight the battle of life. Free Reading Rooms and Reading Clubs, Home-Reading Unions and Circulating Libraries are the order of the day in these civilized countries as agencies calculated to supplement the work of the schools. Coming nearer, we have in our own country the noble example of that illustrious ruler, the Gaekwar of Baroda, who has not only made Elementary Education compulsory in his State, but has also made very liberal provision for the formation of circulating libraries in all important centres in it. Mysore and Travancore also are slowly following his noble lead.

We in British India, however, have not yet seen the consummation of this necessary reform. That it should come about sooner or later has been acknowledged by the powers that be. In the meanwhile, voluntary agencies must come forward and bring into existence not only schools but lending libraries also with a view to the spread of enlightenment among both the classes and the masses. And I earnestly look forward to the day when your library will be stocked with vernacular publications dealing with a variety of topics and every labourer or artisan will with joy peep in here on his way home in the evening, and learn to forget his little worries of the day in the delightful company of friends that you will offer him in the shape of books.

Gentlemen, one other point I should like to draw your attention to before I close. You are all agreed that our country is now in a period of transition. She is no longer the isolated country that she was centuries back, left alone to follow her own order of evolution according to her own bent. For

good or for evil, she has come to take a place in the assemblage of nations materially more forward and advanced than she. The consequence is we are now confronted with problems which those countries themselves have already had to solve. In the sphere of politics, sociology or industries we are passing, or about to pass, through just those phases through which they have already passed. The growth of factories and the consequent migration of people from villages into cities, the congestion of population in the latter and the difficulty of finding adequate housing for the poor, the evils of insanitation, of drinking houses and intemperance, scarcity of agricultural labour, the sharp distinctions and lack of good understanding between capital and labour, the question of unemployment, the rise in the standard of living and the misery that it causes to millions of our fellow-creatures—all these are cropping up for solution in our midst, and if we are wise, we should carefully study how these very problems have been met and solved in other countries, so that we may profit by their experience. All this means wide and extensive study, and I believe, intelligent citizens as you are, you will perceive what great good you will be doing our country by forming correct opinions on these matters, and thereby informing and making public opinion. I should therefore earnestly press on your attention this aspect of the case and request you to get together an up-to-date set of books dealing with the political, social and economic problems of the various civilized countries of the world, and make a close study of them. It is, of course, not quite possible for any single gentleman to study all these questions and herein specialization may be followed with considerable advantage to all. One

gentleman, for example, many tackle the subject of agriculture, another may take up co-operation, a third may address himself to municipal reform, and so on. And by way of making you realize what I mean, I mention the name of the Hon. Mr. M. Ramachandra Rao, as a gentleman whom we may hold as our ideal and whose example we may strive to follow. Not all of us, of course, are ever likely to find a place in the legislative assembly of the province like him. Nevertheless as intelligent citizens of the empire our responsibility for raising the level of public opinion among us and improving the intellectual efficiency of the nation as a whole is none the less serious. "We cannot," as Lord Morley says, "like Beethoven or Mendel, lift the soul by the magic of divine melody into the seventh heaven of ineffable vision or hope incommensurable. We cannot, like Newton, weigh the far-off stars in a balance, or measure the heavings of the eternal flood. We cannot, like Voltaire, scorch up what is cruel and false by a word as a flame, nor, like Milton or Burke, awaken men's hearts with the note of an organ-trumpet; we cannot, like the great saints of the churches and the great sages of the schools, add to those acquisitions of spiritual beauty and intellectual mastery which have, one by one and little by little, raised man from being no higher than a beast to be only a little lower than the angels. But what we CAN do—the humblest of us in this great hall—is by diligently using our own minds and diligently seeking to extend our own opportunities to others to help to swell that common tide, on the force and the set of whose current depends the prosperous voyage of humanity." "To help to swell that common tide," gentlemen, is our duty, and I hope we shall

all do it ourselves and help others also do it by properly equipping the library we have now started under such happy auspices.

May God bless all!

A PLEA FOR PHYSICAL EDUCATION.

WE wish to present to our young friends, a true picture of themselves to make them see as others have seen them.

Before a few decades, we are well aware that prizes were offered to our young men, incentives were given for their intellectual efficiency, and equipment, for their success in examinations. In the 80's we know of no play-ground or gymnasium attached to High Schools or Colleges.

Before the advent of the Educational Commission in 1882, no attention was ever paid by the Educational authorities to the physical culture and out-door games; but nature would have her way, the students then of their own accord had to congregate on the river beds or sandy plains, had their national games of *Bali*, Leap frog, etc.; many a student then of Kumbakonam College had their hearty fill of jumps and swims in the flooded *Cauveri* much to the annoyance of the bathers by and sometimes hotly pursued by the guardians of peace for their mischief and pranks.

Only about a decade ago, when the authorities saw the blunder and danger of the old order of things, the evil effects of one sided development, an organised attempt was made to ensure physical culture, to introduce games and sports and inter-school tournaments. Many of us now and again have witnessed the interesting ceremony of prize-giving to such of our young budding *Bimans* and *Arjuns* who have been declared by competent sports-

men fit to receive them for their excellence in games and sports. This is a change in the right direction from the old order of things, for now the need is not intellectual giants with puny frames, but rather giant frames with a workable brain.

Bear with us till we pass under your view how the old order had worked havoc in our midst, how our young men went on developing their brain more or less exclusively to the neglect of their body, how this sinning against nature sapped the life-juice of our nation, how the B.A.'s and M.A.'s, the pick and the flower of our land, have not had even half the span of life allotted to man by the Psalmist, how after a brief—alas! too brief a—period of existence of *meteoric* brilliancy—they sink into premature grave. These are too ghastly to contemplate.

Our elders say "Before erecting the wall, think not of painting thereon;" what does this mean? It means to our mind that without proper foundation, no superstructure is possible, that the intellectual culture rests on the physical well-being as a door on hinges, that the brain cannot grow, expand, bear flowers and fruits if its bottom be knocked off, that a sound mind presupposes a sound body, that one cannot burn the lamp of life without oil and wick, that an artisan cannot work efficiently with clumsy tools, and that a soldier cannot fight his battle unless he keeps his powder dry.

Whenever we meet our elders, and prostrate before them to invoke their blessings, what benediction do they pronounce on us? "Be you long lived." Thus length of days, this elixir of life, the dream of poets and philosophers is one of the choicest gifts that Heaven can confer on man; but it is obvious that this longevity, if it means a greater period of

suffering physical pain, is but an additional burden and therefore to constitute it to be a real blessing, it must be accompanied by that greatest of all earthly means of happiness—health of body and of mind. So there is a corollary to our benediction, "without disease, be of strong body." Can you deny that a greater than a Rockefeller, the oil-king of America, or a Tatta of our country, if deprived of health, is a more miserable being than its meanest possessor—the sturdy-looking beggar of our streets.

If you go unobserved over a class of Indian school boys you may not have to wait long before you discover many a blear-eyed, pallor-looking ones, with bent spines, with pigeon-breast, with eyes myopic, with their heads dropped over their books, with all limbs more or less atrophied, except perhaps their enlarged round abdomen—a very picture of melancholy and sickness for our country-men to behold and to be heartily ashamed of. You may find here and there, as an oasis in a desert, a stripling gay and buoyant, with boyish pranks, full of life and mirth; but this an exception.

We ask in all seriousness, "are these our young men, the future stay and hope of our motherland? Are they the nation-builders, the units of national efficiency?" Is not a strong, healthy youth a valuable asset to our national wealth? If things are made to continue as they have been till now, we fear the day is not far distant when our young men would be real Lilliputians—an object of curiosity and derision to the foreigners; unless we mend, our end is near and perdition must inevitably follow.

Think not that these gruesome pictures are of our imagination but of things that we actually see around us every day. There is

no use of mincing matters and blindly shut our eyes to facts. We have been sinning too long against nature. She is a jealous Goddess and will not brook disobedience. There is no compromise with her. She cannot be made to meet you half-way. She would exact the last pie with compound interest. She would have her pound of flesh and nothing else and nothing less. There is no wonder, therefore, that tuberculosis and consumption, dyspepsia and diabetes have come to stay in our midst—the doctors do what they might.

This picture is not dismal enough, it must be made worse; the authors of some of these specimens of humanity accuse us teachers—why and for what? Many of us come in for the lions' share of abuse for our bold and fearless advocacy of the new order of things, for placing the "Robust Animal" before the tiny intellectual wrestler. But pray, what is their accusation? They complain that their geese are not the swans they fondly believed them to be, that their hopefuls have lost their reading habits, that they are not now half as smart and clever as they used to be, or as their elder brothers had been, that they are ever found in season and out of season in the play-ground, that they go home after dark, that they do not burn the midnight oil, that they have not enough of axe to grind, that they go to bed before 8, and that they are growing less obedient and exhibit a pushful and aggressive spirit. So "down with these teachers!"

We ask in despair can a policy of self-annihilation go further? Have not teachers already sinned too much in that direction? and so have not they on their heads the curse of a dying nation? Is not this adding insult to injury? It is the duty of teachers to

guide parents in the training of their children to fit them to be citizens of the Empire. Did not Dasaratha yield to the imperious demand of Visvamitra and hand over his dear sons to the tender mercy of—this austere ascetic, to be taken to their Gurukulavasa, to give them a necessary start in life? The time has changed, now the attempt is for the parents to guide the policy of the teachers! We have heard of dogs wagging their tails, but here is an instance of a tail wagging the dog.

The non-English knowing men, the people who have not been reared up in the present-day hot house system, those that do not depend on their brain-culture for their daily bread, think not of physical exercise, because that is the chief weapon in their armoury to procure for themselves the daily necessities of life. But the case of the cultured man is different. The B.A.'s and B.L.'s every morning and evening have to observe *Ayudhapuja*, as the grip dumb-bells, the Indian clubs, the Sandow's developer have to come to stay in our midst as our household gods of daily worship; for if they fail to do puja to these man-made gods, these god-made men, instead of sweating through their skin may soon have to sweat through their kidneys—that is their fear.

The modern day civilization is not an unmixed blessing—unalloyed good seems non-existent in this world. Steam, petrol and electricity have of necessity robbed man of god—provided exercise of physical activity and have driven him from the open field, from fresh exhilarating air, to a dingy office-room, a school house or a smoky factory.

Many of us have seen the stalwart Kabulis hawking their tinsel goods in the streets of Indian towns. These treat our men as detestable pygmies. At their very approach we crawl

within our doors and eye them through their key-holes, such awe their very size inspires in us. Our belted-knights, even when they are well-armed and *posse comitatus*, fear to approach and catch these Tartars when they are found to break the king's laws.

All of us have seen the inimitable pictures of Ravi Varma Raja. We are particularly fascinated by the portrait of Visvamithra eyeing askance the baby—he was the author of—the future Sakuntala in the arms of his paramour Menaka. This is an inspiration to us. What a heaven-defying chest, what formidable development of biceps and triceps of his body—what an awe-inspiring personality—what an ideal of manhood. It is a sight for angels to rejoice and for us degenerate men to weep over. Many of us claim to be the descendants of these men of yore—shame!!

It will do well for us to trace out the causes in operation that accelerate this dismal state and to find suitable remedies to combat the disease; various causes immediate and remote are ascribed; and we shall take some of them.

The mad rush for Government service, the unhealthy competition therein, the inordinate desire to amass wealth too soon,—these have made the struggle for life increasingly keen. The rank and file of the Public Service is manned by our B.A.'s; their impatience for a quick rise in the Service, the unnatural test of efficiency, exacted by the presiding deity of each department, the quantity and not the quality of the work turned by our men, all these goad them to do three times as much work as is compatible with their physical stamina and their powers of endurance. Under these circumstances there is no wonder

that they become old before they reach their prime: and what is the result? that deadly disease—diabetes that claims so many victims. Can our country afford to lose a V. Krishnaswamy Aiyar or a P. R. Sundaramier before they are 50? This is chapter I of the death-roll of our young men.

It is averred that our social customs contribute their mite to this appalling mortality of the chosen of our land. The early marriage of our young men within their teens,—not to speak of early wifehood or maternity—help the burning of their candles at both ends. The duties and responsibilities of a Grahasta, as husband and father are incompatible with the arduous study that appertains to a Brimmacharin. It is patent to us all, that an intensive life cannot be extensive, that too much strain on the body and mind at too early an age, undermines both and accounts for our men looking old when young. They are so many sucked-up oranges. This canker of our own making has corroded and has eaten into the very vitals of our society. We must plead guilty to the charge and we are responsible for this பிஞ்சில் பழுத்தான் affair. This is chapter II of our death-roll.

It is suggested from the congress platform that the Arms Act has in a way emasculated our men, that people who were using spears and arrows wield now goose-quills, that this has made it possible for a Topee-wala to kick with impunity a Jagirdhar of Arni, to force a Maharaja to shampoo a burly John Bull, a fellow-passenger, to coerce an Indian Judge travelling in the First Class, to remove himself, bag and baggage on the approach of a Tommy, who, it was feared, would use his fist and kick, if not his revolver. But this is too dangerous a ground for a school-master

to traverse over and we shall not play with fire over a powder-magazine.

Sometimes our premature old age is connected with the climate of our country and with the kind of food we take. We ask “are we not living in this our mother-land from the days of the Vedas, from the time of Pathanjali and Viyagrapada?” Did not our forefathers live up to ripe old age? Are not niches pointed out to us in houses more than hundred years old, where our old sires were placed, because they would not die? Do not flesh-eaters now return to be vegetarians? The cause is to be sought for in other ways and quarters.

Another fruitful cause is the Educational policy, till very recently pursued by our Government and the University. This is chapter III of our death-roll. Taking the trend of Education before 1885, the B.A. Examinations were conducted at a stretch continuously for six-days with a multiplicity of subjects, failure, say, in Tamil, entailed the study next year of Chaucer, Dynamics, Psychology, History and whatnot, in which the student had passed the previous year.

It took many years before the subjects were trifurcated and bifurcated. The University and our men thought that all students had been made by nature to order of one pattern and brand; whatever might be the likes and dislikes of students, they should shape their heads to suit the ready-made University cap. This tension and pressure counted its victims, though it has now been somewhat reduced.

Look again at the old F.A. Examination, with many candidates. Mathematics, the grocers' craft, was a stumbling block that broke the knee of 80% of them. It was woeful sight to see in colleges, the Senior

F.A. classes congested to an extent of 500 students. Our men could not bring themselves to believe that keeping time and eating dinners as in continental countries would answer the purpose. Heaven only knows to what use, the B.A. and F.A. gumastas put their knowledge of cosin ($A+B$), the causes that led to “war among the city-states of Greece, the function of a pineal gland, in docketing, in drafting, and registering letters. Their book-knowledge was absolutely of no use to the work they were intended to turn out.

Come we now to the defunct Matriculation Examination. Our men again were not keensighted enough to see and differentiate between men needed for public service and men who desired University education, who had time and wealth to pursue it. Whether they will it or no, all must be driven through the same course. We have heard it said that once a Chinese Emperor was presented with a coach and an English coachy. This son of Heaven inspected it and found in it two seats, one above and higher at the top and one inside. The Emperor—being—a—celestial—naturally thought that he should seat himself nearer Heaven, got on the coachman's box and the coachy had to get in. When the syce was told to drive, he exclaimed, “How can I?” “We don't care, drive it on anyhow” was the imperious reply. This “drive it on anyhow” policy of the University, what havoc and strain it produced on our young men is too horrid to depict. Their tale is shortly told when we say that in the Town High School, Kumbakonam alone, there were six or seven sections in the VI Form, with 40 boys in each, and of these four sections at least consisted of ploughed men. This tragedy was enacted year after

year. The Government saw the appalling blunder the University was making, swept this nightmare clean out of existence, took the Secondary education into their own hands, saw with true insight that attendance and training alone were sufficient for the vocation they may soon be called upon to fill, and has thus relieved the congestion of the High Schools.

Thus from the B.A. down to the School Final, we cannot now complain of the old strain and so it can no longer be said that the educational system is responsible for the decay of our men at least in future.

We are now come to the end of our tale of woe. If our young men think a little, if they could take to a little bit of day-dreaming and star-gazing, if they can cultivate a self-chosen hobby, say music, painting, manual training, photography, etc., to relieve them of tension and official pressure, that will act as a soothing ointment to their over-strung nerves.

According to the inexorable laws of our stern step-mother, nature, bare existence itself and still more healthy and comfortable life is the reward solely of unceasing watchfulness, the prize of constant struggle, and the crown of merciless warfare with all the powers and forces which incessantly strive to sweep out our race clean from the surface of the earth.

If we look ahead, and understand our duty, a tremendous responsibility rests on the shoulders of us all, who have anything to do with young men, either as parents or as teachers or as citizens. There is hope, fond hope that our young men have not yet gone so low in their downward march of degeneracy as to throw us in despair. There is time yet

for us for repentance and penance for all our sins of commission and omission—*Amen*.

N. P. KRISHNASAMI IYER.

COMMERCIAL EDUCATION.

THE subject I have written about is one of National importance. It would be better at first to define the scope and meaning of the respective expressions, General Education and Commercial Education. Without giving any undue importance to the one or an equally undue insignificance to the other, I wish to confine the meaning of General education to the course of study prescribed for the various examinations in the Arts Branch of the University or to the picking up of a general knowledge in literature without being in any way in a position to utilize it towards the material advancement of a country.

2. By Commercial education I mean an acquisition of that knowledge which will help the mass to contribute their quota or share towards the progress of our country.

The material progress of a country depends not upon her philosophers, poets and prose-writers, but upon her merchants and the agricultural and pastoral classes. So early as the 14th century King Edward III of England emphasized the fact that without commerce, the national prosperity is open to deterioration. A study of history will reveal the fact that the nation which neglected her commercial interests had in the long run to suffer from internal decay as well as eternal dangers. The true object of the British nation in having come to India was trade; that of the Mahomedan conversation into Islam. A study of the history of our country shows the final result of both these conquests. In modern times there

has been a tendency to simply educate the sons of the soil to procure the diploma of B.A. and M.A., without taking into consideration mere B.A.'s and M.A.'s alone cannot help to build an empire. I am far from saying that our young people should not receive a higher education; but the practice of every one aiming at becoming boy bachelors is, to say the least of it, against the true progress of our country. In more recent times, I own that endeavours are being made to check this undue growth of mere education, general, and to open to avenue of Commercial education to the masses.

I have already said I do not depreciate the value of general education, but only deplore the tendency of neglecting the acquisition of the knowledge in such branches of Commercial education as Commercial History, Commercial Geography, Correspondence, Banking, Shorthand, and Typewriting. However we see now every where a new impulse given to commercial education, for instance the Davar's College of Commerce at Bombay, the Commercial School at Calicut and various other schools established all over India in order to teach economic history, etc., are undisputed testimony to the need and usefulness of Commercial education.

General education can simply develop the intellect while commercial education develops not only the intellect but also supplies in a more practical manner the needs of our country. The former can make you a learned man, the latter a useful man. I may almost say the one is theory and the other is practice. In primitive times the growth of society depended not only upon philosophy and religion, but upon the occupation of the people. Agriculture and commerce alone developed society by promoting mutual good with common interest as motive power. Richlieu and

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Colbert, two of the famous ministers of France, emphasized the fact that commerce alone could keep the greatness of a country. Sir Robert Walpole, the great peace minister of the 18th century, was averse to war on the ground that it retarded the progress of national prosperity. What was England before the 17th century? It was a country where men were pouring out their blood for the cause of an opinion in respect of how should kings rule therein and how they should worship God. But with the accession of the Hanoverian kings, with the enormous out-put of coal and iron with her large colonial empire to trade, with the opening up of canals, roads and other means of communication, England had become one of the greatest of the commercial and manufacturing countries of the world.

A speculator comparing Great Britain with the United States of America prophesies the greatest possible success to the Americans in their commercial enterprises. They possess perhaps a more accurate and practical knowledge of commerce than any other nation of the world.

Alas! our own country, the cradle of the noblest thoughts in philosophy and religion, is in a far more backward condition as a commercial nation than one could wish to see. We can foresee what our country would be if all our capital be devoted towards commerce, if most of our youths take a keen interest in acquiring commercial education and help the capitalists towards utilizing their money in a profitable manner.

Taking a more practical view of the subject I wish to point out that many poor people wish in India to give their sons a general education, but feel it a shame to allow them to acquire knowledge in such subjects as Shorthand, Typewriting and others. An

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ordinary Matriculate with a certificate of proficiency in these subjects is more useful and can get a better income than a graduate placed under the necessity of earning a livelihood. This utilitarian view seems to have struck many of the parents and hence we find at present a tendency to make the learning of commercial subjects more popular.

Apart from this there is yet another phase in the situations. When a man has acquired knowledge in commercial education, nothing need prevent him from acquiring a general education, if he be so minded. With our newspapers, with the facilities offered now-a-days by cheap but excellent books on every subject, is it very different to improve our minds? I believe not.

I am of opinion that more time should be devoted to the commercial education than to general education, especially by those who have large capitals and by those whose means cannot permit them to stay long in the department of general education.

P. A. NAIDU.

THE MERITS OF PROSE AND POETRY.*

Why does anybody use poetry? It is a question which sounds extremely absurd, but is not as easy to answer as some of you will suppose. It is clearly much more difficult to use verse than to use prose. You may say verse gives, for example, pleasure, unanalysable pleasure, an unaccountable pleasure, which we get from melody.

WORKED BY A MASTER.

Nobody has ever explained why melody in music pleases us. Neither psychologists nor physiologists have ever in the least explained,

* An address delivered by Mr. A. G. Balfour, President of the English Association,

And something of the same unaccountable pleasure, unexplained pleasure, undoubtedly attaches to beautiful verse. Then in addition to that, and beyond that, there is always a pleasure in seeing refractory material worked by the hand of a master. There is a great satisfaction in seeing a difficult thing admirably done, and the difficulty of the language brought up to its highest possible perfection must be a source of gratification to everybody who really understands one of the pleasures, and not one of the least of the pleasures, which literature is capable of giving us. In addition to that there is yet another reason.

A FAMOUS SIMILE.

Poetry permits, justifies, and even encourages the use of ornament and decoration in enrichment. In fact, it would be out of place, out of date, altogether superfluous and, indeed, injurious in prose. And if you look at the poets who have tried to do what Dryden tried to do, namely, to embody reasoning, as far as reasoning can be embodied, in poetry, you will find that they always have as a matter of fact enriched the argument by poetical matter more or less relevant, but if the master be a great one, always delightful.

It is in another argumentative poem, a didactic poem, that there occurs a simile which Dr. Johnson declared to be the best simile in the English language—very high praise from a very great critic. Again, you all know the passage. It is that in which the poet, having explained that in our early youth we think the field of learning may be easily conquered and that as we get on in life we see the difficulties increased before us, introduces the famous simile which ends with the line:

'Hills peep o'er hills, and Alps on Alps arise!'

Again, you all remember the line. It may be worth your looking at the passage, for it is an admirable one.

There are three great advantages which everybody would admit that poetry has over prose in

dealing with any subject, I mean the melody, the pleasure which the comments on the material give, and the enrichment which that particular form of literature permits and even encourages. But there is another attribute of poetry which is relevant, I think, to the subject argued in verse, and that is the power of compression, the power of producing intensity which poetry possesses in a degree far exceeding prose in its ordinary and most appropriate use.

QUALITY OF INTENSITY.

I am not sure that this quality of intensity or compression always receives sufficient attention from critics and students of literature. It seems to me to lie at the root of much more than we are apt to think. Men of science are quite familiar with the idea that the amount of time taken, acceleration, intensity, that these things are of the utmost importance for accounting for natural phenomena, but I do not think we always quite grasp how widely spread through all literature is this quality of intensity, and how much it stands for and by how many means men of letters try and attain to it.

We are apt to talk as if the same meaning that had been put in a compressed form could be expanded and explained and drawn out at unlimited length, and that then you would have the same meaning in two shapes. But that is inaccurate. Mere dilution alters quality. The mere extension, the mere explanation, the mere enriching of the thing destroys its most essential attributes and even destroys its higher qualities. You come upon a line of a couplet in a poet which for some reason seems obscure. You read a long note about it. The note explains what the poet meant. It does not tell you what the poet said, it does not give you the meaning of the poet. You might as well suppose that some medicine or some tonic would produce its effect if diluted with an infinite quantity of water. The tonic is there and is unchanged, but for all

practical purposes it is an utterly and entirely different thing. Poetry does permit of this increase of tension, this augmentation of intensity and concentration, in a way which prose does not admit.

BROWNING'S TELEGRAPHIC PROSE.

It is one of the reasons why we may hope that arguments might be presented with efficiency and force in poetry which prose is incapable of affording. Indeed, there is some truth in that; but before I touch upon that perhaps I had better indicate the methods by which this sort of intensity is reached. These methods are many. The simplest of all are what I may call telegraphic concentration. Sometimes someone sends a telegram which consists of the substance of the message, but there is no preposition, and you are expected to fill up all the gaps and to translate the message into some form more easily comprehended. That kind of concentration is possible in poetry in a manner which you could never tolerate in prose. Poets have used it and abused it. There are passages in the 'Essay on Man' most obscure, not perhaps greatly worth unravelling; but the obscurity comes from the fact that the poet has used almost a telegraphic system. He has left out too much and expects his readers to put it in.

And a much greater man, and in some respects a much greater poet than Dryden, was a still greater sinner in that respect, and that is Robert Browning. Browning has left difficulties—difficulties which every reader who tells the truth finds in following his line of thought, because of the fact that he so recklessly and unscrupulously used this telegraphic weapon of concentration, and a most laborious task it very often is. When not carried to excess I do think this power of compressing is an asset for those poets who are bold enough to try argument in prose. No prose-writer would dare to use it—he is expected, and rightly expected to expand his article to a point

which is immediately intelligible to any ordinarily instructed reader. And in that respect the poet has the advantage over him. But there are other methods by which prose no doubt can do something towards getting this intensity, which is so important a quality—I won't say of style, but to which style is important.

MR. BALFOUR AND MR. CHESTERTON.

'Paradox is a method.' What is the advantage of paradox? Why do people use, and why do some people abuse, it? Because it is a method in which the whole argument can, as it were, be forcibly compressed until it seems to have a significance which it would not have if it were extended to its full length. You find admirable instances of the use of paradox, and you will, perhaps, find some instances of the abuse of paradox, in Mr. Chesterton's ingenious and suggestive writings. Most instructive they are, and, if you look at them from the point of view which I am endeavouring to bring before you—namely, a sort of survey of the methods by which artists in verse and prose get this quality of concentration and tension—I think you will see that Mr. Chesterton uses to the full this particular method. And you will see not only that he does it, but also why he does it. It is the same with epigram, such epigrams as Pope constantly produced, not always in his greatest passages, but in a single line here and there, which from the very perfection of their form and from the concentration he was able to give them have passed current in every clime in which the English language is spoken, and have become a proverbial element in our common speech.

RETICENCE AND GOOD STYLE.

There is no more method, I may mention, which is obvious—I was going to say ostentatious—reticence, when the writer has brought up the reader to a conclusion which is so obvious, to interferences which are so plain and then leaves the reader to do the rest himself. That is a method not indeed very often used, but there are

instances—I shall not mention them—where it has been used with really extraordinary literary effect.

You must not suppose that I am suggesting that the essence of good style is this concentration and tension, and that the difference between the bad writer and the good writer is that the good writer packs in allusions, suggestions, thoughts, arguments, into a form which makes them far more powerful than they are if diluted by incompetent treatment. I do not at all hold so wide a doctrine as that. I do not think that all the merits of style are in one shape or another efforts in concentration. You have only got to consider a novelist like Richardson to see that the contrary may be true. I am not a great student of Richardson. I should have said that his effects were deliberately produced by never concentrating anything. It is a gradual and slow accumulation of things which are not concentrated, but by the mere mass, and in the sum they had an extraordinary effect upon his own generation, which they have never lost among cultivated readers from his day to our own. Yet these cases are rare.

JANE AUSTEN.

Consider the writer who never indulges in paradox, and is deliberately sparing of epigrams. Consider Jane Austen. She had a style which did produce this concentration. I believe she said of herself that her effects were produced by innumerable minute touches. I do not quarrel with her own account of her art, but each touch was concentrated—that is the point. If you read any of her novels you see how much she got in by illusion and suggestion, by style in the best sense of the word, and how packed her novels are with that which grips the reader and makes him feel the whole scene which she is endeavouring to represent as being acted before him.

KEATS' FAMOUS LINES.

Now that which can be done in prose by these expedients, and doubtless by others is also done,

and to a far greater extent, in poetry, and I would suggest that there is a distinction to be drawn between two methods by which poets of different schools have attained this concentrated tension. If you take stock instances of the past—I will take a very stock instance, far removed, indeed, from Eighteenth Century or Seventeenth Century poetry, and far removed from argument—I will take it from that familiar sonnet of Keats. We all know the last four lines of his famous sonnet to Homer:

'Or like stout Cortez when with eagle eyes.
He stared at the Pacific—and all his men
Look'd at each other with a wild surmise—
Silent, upon a peak in Darien.'

Now these are four lines in which there is no appearance of effort, in which the melody, exquisite as it is, is not forced upon our notice. Yet to me, and I imagine you would be in agreement with me, there is in that a concentrated picture which, if you were set down to write it out in prose, would take you a page, and when you had done it, it would have no resemblance to the original. You get there, by means of the highest poetical suggestion, this compression of which I am speaking, and the peculiarity of compression by this poetical suggestion is that it has not got clearly defined limits. Compressed as it is, it shades off, so to speak, on its exterior limit, and has no defined border, and the suggestion which might be made to one man would not be exactly the suggestion made to another. There is a difference, and it is those people who cannot catch the suggestion who say of themselves, perhaps truly, that they do not like poetry.

The man who argues in prose is forgotten, how ever great be his talents or his qualifications. The man who argues in verse, if he have sufficient genius, is remembered.

INDIAN STUDENTS IN ENGLAND.

The note by Mr. T. W. Arnold, Educational Adviser, to a Committee:—

I am obliged to the Committee for allowing me to see the evidence that has been laid before them by Indian students, as such frank criticism is helpful and instructive. But the documents are somewhat melancholy reading and often reveal a misunderstanding of the difficulties of the situation. It has often been said that the India Office ought to have started a students' department twenty years ago; and the fact that it was established only a few months before the murder of Sir Curzon Wyllie, at a time when opinion in this country was growing somewhat exasperated, has made its work peculiarly difficult. The Indian students who have put forward their grievances certainly deserve the sincerest sympathy. They come to this country with high hopes and expectations, and suffer keenly (as any of us in similar circumstances would) from the rebuffs they meet and the cold reception they get. It is not surprising that in their desire to ascertain the cause of these adverse circumstances they should fasten upon the organisation they are most familiar with as the source of their troubles. But there are certain facts which have no connection with the students' department, and some of which are prior to its establishment or the concern of the India Office with the affairs of students, to which they fail to attach sufficient weight. Among these facts may be mentioned:—

(1) *The increase in the number of Indian students coming to this country.* In this connection it must be remembered that hardly any institutions for higher education in this country have accommodation for an unlimited number of students. This is particularly the case at Oxford and Cambridge, where admissions are limited by considerations of accommodation either in the College buildings or in licensed lodgings; by the number of Tutors, which again depends upon the amount of the permanent endowment of each college; and by the

consideration of what may be termed ancestral claims, urged by former members of particular college or by schools that have a hereditary connection with it.

(2) *A growing dissatisfaction with Indian students as such.* These complaints may be summed up under the following heads:—(a) *Morals.* Under this heading I have had to listen to constant complaints, some of which I found to be entirely unfounded, and others I found Egyptian students to be responsible for. But there unfortunately still remains a certain number of instances of scandalous behaviour which have done lasting injury to the interests of Indian students, the effect of which it is exceedingly difficult to remove. Such a scandal in 1909 nearly led to the exclusion of Indian students altogether from the Royal Agricultural College, Chichester, and I would suggest reference to the Legal Adviser for information as to the increasing number of deserted wives in this country. (b) *Finance.* A large number of colleges have complained of the fact that Indian students have returned to India without paying their dues to the College or the debts incurred to lodging-house keepers or tradesmen. Such men have created a prejudice against their fellow-countrymen and made College authorities shy in admitting others without satisfactory guarantees. (c) *Social relations.* A spirit of unfriendliness towards English students has been shown of recent years, which has been displayed somewhat aggressively in certain instances in a manner that tends to discourage friendly advances. I may give as an example what was told me by a student when I was with him in his rooms at Queen's College, Oxford, Mr. . . . [We suppress names.—Ed.] I asked him in the second year of his residence whether he had made friends with the Englishmen in his College. He answered 'No' and that he did not care to. 'But' I objected, 'you spoke to two men in the Quadrangle as we came in.' 'Yes,' he answered 'but one was a Frenchman and the other a German.' I found a similar spirit in the Medical

Department of University College, London, when I enquired of a young English student how the English students got on with their Indian classmates. His answer was: 'We never speak to one another, because the Indians do not want to know us.' Such an unfriendly and anti-social attitude is fortunately not universal among Indian students, and many of them form lasting friendships in this country; but I have noticed that those Indian students who wish to cultivate friendly relations with their English fellow-students rather aggressively cut themselves off from the society of their fellow-countrymen, I entirely agree with Mr. . . . in his opinion 'that much good will be done if my Indian brothers will not come here with the deep-rooted idea that the English students are not at all well-disposed towards them.'

In this connection I wish to draw attention to a section in Mr. . . 's letter, in which he points out that social difficulties have arisen in Edinburgh, the University which from the outset has refused to have any relations with the students' department, and indeed has frankly expressed its unwillingness to co-operate with the India Office. 'During the last half decade there has grown up a large amount of prejudice against the Indian student. This is due to the influx of a large number of students from the Colonies, and also to a great extent to the growth of the Milner Imperialism among a considerable section of Scottish students. I may add that this prejudice is also slowly extending to the junior lecturers in the University, and this is most obviously so in the Medical Department of the University. Due to this unfortunate growth of prejudice among the students, the Indians have also naturally developed unhealthy prejudice, and the result is that there is no such healthy social intercourse between the Indians and natives of Scotland as one would sincerely wish Indians are allowed in the University Union to segregate themselves from the social life of the students, which brings about an embitterment of feeling which ought to be sincerely deplored.'

If other Indian students would recognise in the same frank manner that their difficulties in the situation are in no way connected with the establishment of the students' department, there might be possibly a basis of co-operation between them and the officials of the India Office and the latter might be able to help more effectively. But our efforts are hampered by the profound distrust and suspicion that manifests itself so frequently in the evidence laid before you, e.g., by Mr. . . . who writes of the work carried on in 21, Cromwell Road: 'The students never have confidence in such efforts, however nobly they may be inspired;—there is always a lurking suspicion, always hatred of officials.'

(3) In view of the difficulties created by such a situation it is natural that University and College authorities should welcome the establishment by the India Office of an organisation that would provide them with certain guarantees as to the morals and financial stability of Indian students who apply to them for admission. By obtaining such guarantees these persons hoped that the scandals that had occurred in the past would be prevented, and that they themselves would be delivered from the worries and difficulties to which they had been exposed on former occasions. The students who have given evidence before you have failed to appreciate the difficulties from which these educational institutions have suffered, and suggest that it is the students' department that has urged upon these institutions that they should not admit Indian students without the recommendation of the department. I take this opportunity of saying that I have never asked any educational authority to make my recommendation doorway of entrance in this way, and that the statement made by Messrs. . . . and . . . is entirely false so far as I am concerned.

(4) Owing to their age and inexperience our students are unaware of the difficulties created by the presence of foreign students in a University. The difficulties that have arisen in this country are not an isolated phenomenon, and the Secretary of

State for India has only taken action similar to that which has been taken by other Governments. The Japanese and Siamese Governments have for many years past kept their students studying in England and France under a strict guardianship. The Japanese Government has restricted the number of foreign students to be admitted to the University of Tokio, and the Prussian Minister of Education has framed similar regulations for the German Universities. The Egyptian Government has established an educational agency in this country to look after the interests of Egyptian students and undertake guardianship when requested by parents. The Dutch Government has appointed a Committee under the presidency of a former Director of Public Instruction in Java, with the intention of establishing an agency somewhat on the lines of our students' department; and the French Government is contemplating similar action.

(5) *The independent position occupied in this country by Educational Establishments.* None of them are under any department of the State, and the grants-in-aid that have been in recent years made to a certain number of Universities through the Board of Education in no way restrict their liberty of action and organisation. Least of all would any one of these educational institutions submit to any dictation whatever from the India Office. Knowing as I do the feelings of my fellow-countrymen and the complete liberty and independence claimed by Universities and colleges in this country, it has been a matter of surprise to me that they have been so ready to avail themselves of the new department established by the Secretary of State for India. This readiness I take as testimony to their perplexity in regard to the problem and their determination to keep their doors open for the admittance of Indian students, provided that satisfactory guarantees can be obtained.

(6) This brings me to a further point which Indian students as strangers in this country have failed to gain knowledge of. That is that an

English student often finds it difficult to obtain admission to a college in this country. The Earl of Dudley found it expedient to apply for the admission of his son, Viscount Ednam, to a College in Oxford four years before he was to come into residence and many other English parents of less exalted rank find they must make an early application and must use various means of persuasion and influence in order to secure the end they desire. But Indian students often take it as a grievance that they are unable to obtain admission, though they do not apply until long after the date when the list of admissions has been closed. In this connection I should like to draw attention to the generosity of many colleges at Oxford and Cambridge, which, recognising the difficulties under which Indian students are placed in the matter of an early application, have made an exception in favour of Indian applicants and have reserved for them vacancies in their respective institutions. But when Indian students, applying late, fail to gain admission into any College or University, they are apt unjustly to attribute their failure to an unwillingness on the part of the authorities to admit Indian students as such.

It is unfortunate that some of the Indian students who obtain admission to either Oxford or Cambridge do harm to the cause of their fellow-students by their undisguised contempt for the Universities of which they have become members. These Universities are repositories of ancient tradition which they very jealously maintain, and are sensitive to ridicule and impatient of criticism. To such ridicule and criticism they are exposed from outside critics, but from the members of their own body they expect a loyalty which in the majority of cases is enthusiastically given to them. They expect to be approached by the natives of the country for whose benefit they were originally established with that same feeling of devotion and reverence as in India has traditionally been shown towards the Guru and Ustad. Those authorities at Oxford who had

readily in the past admitted Indian students received a rude shock when Har Dayal, in a meeting at which many grey-bearded heads of houses were present, got up and stated that none of his countrymen had anything to learn from the University of Oxford and that he would warn them always to keep away from it. A similar attitude of contempt is expressed in the letter of Messrs. and who write: 'As to literary education such as is afforded by the older Universities of Oxford and Cambridge, we feel that it is entirely unsuited to our needs, and hence hardly worth the worry and expense involved.'

With regard to the criticisms directed against the work of the students' department, I will leave to Mr. Mallet the consideration of all details of policy in connection with the attitude of various educational institutions towards the admission of Indian students. These are matters of extreme delicacy and the bodies concerned are difficult to deal with but some of the suggestions that have been put forward in the evidence are deserving of very careful attention.

In regard to the complaints that have been made against me personally, I should have found them easier to deal with had specific instances been given and the complaints been stated in more detail. If any of the students had found the information given to them confusing, their difficulties would have been set right if they had frankly stated them, and I can only suppose that the cases referred to are cases in which the advice given has been unwelcome. As an adviser, I have frequently found it necessary to suggest to a student a course or place of study other than recommended to him by his fellow-students and I have not unfrequently found that the advice of the latter has gained more ready acceptance. Such has been the case when I have discouraged students from attempting to work for the Open Competitive Examination for the I.C.S., and I know of no instance in which a student has been successful, whom I have endeavoured to dissuade

from the attempt, and I know of other cases in which there has been much waste of time and opportunities because my advice was rejected; and even serious injury to health, because a student has attempted a task beyond his strength to fulfil. I have been myself an examiner for this examination, and can claim to speak from personal experience, as well as from the knowledge gained from 25 years' work as a teacher.

I note the number of students that have made these complaints to you is not more than 19, in addition to the engineering students and the medical students whose names are not given. That the general body of the students has not kept away from this institution by such considerations as have been urged in the evidence laid before you, may be judged from the number of those who have availed themselves of the opportunities afforded them. The number of students interviewed in 1909 was 263, in 1910, 351 (up to June 30th). In August 1910, the Bureau of Information was transferred to 21, Cromwell Road, and the rush of visitors was so great during the rest of that year, and the staff was so much overworked, that a complete record was not kept. But from January 1911 a record began to be kept again, and during that year 674 students came to the Bureau; in 1912, 531 students were interviewed, and from the end of September, beginning of October to the end of December 232 (how far these figures refer to the same person, I have no materials at hand to enable me to say).

In 1913, 650 students were interviewed. Many of these students were frequent visitors to this house; in addition to them, there were many students who wrote for information, without calling. The total number of Indian students resident in this country with whom this Bureau was in touch in the years 1909—11, was 1,062; in 1912, 870; and in 1913, 970. Of the new students who arrived in this country during the year 1912, 178 came to the Bureau for advice; in 1913, the number of such new arrivals was 253.

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These figures show that the distrust of the operations of this Bureau, expressed by those students who have given evidence, is not shared by the whole number of their fellow-students, and I trust that one of the results of the investigation of the sub-committee will be that they will be able to disabuse the minds of this small body of students of their misconceptions as to the aims and activities of the Students' Department.—*The Commonwealth.*

EDUCATION IN THE MAGAZINES.

(INDIAN.)

Lord Carmichael on English Education in India.

His Excellency Lord Carmichael, in opening the new buildings of St. Paul's Cathedral Mission College, in the course of a speech, said:— "Many people think that education in Bengal is at present passing through a most critical and crucial phase. There are some, a small minority, who would gladly set the clock back. They trace our political troubles and economic discontent to a rash and injudicious spread of English education, and they think that if the rulers of India had offered education to its people with a more niggardly hand their difficulties would not perhaps have been as acute as they are. I confess, gentlemen, to a feeling of some impatience when I meet with this view, for it seems to me that British policy on a matter of this kind must be consistent. I do not often enlarge upon the benefits of British rule. It always seems to me that our achievement in India, even if we admit that we have made mistakes, speaks for itself in no uncertain tone, but I do take pride in knowing that the British Raj in India has from its beginning always stood for enlightenment and the spread of education. We could never, if we were true to our traditions, have done anything but strive to educate India. If, however, our critics maintain that our educational policy has sometimes been ill advised or not based on facts, we may, I think, readily enough admit that there have been errors. When we look back through the helpful perspective of time to Macaulay's famous Despatch, the idea suggests itself to us that some of the crudeness and superficiality of our educational results might have been avoided, and

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would have been avoided, if the early administrators of British India had only had the knowledge which experience has given us. But we have begun to take stock. The serious study of educational problems which, though not for so many years, has called for the attention of thoughtful men in Europe and in America, is informing and pervading Indian thought. The problems which the School, the College and the University present are daily being more studied, and I look forward with confidence and gladness to a time when the somewhat chaotic diversities of our Indian system of education shall be co-ordinated and unified without, however, being stereotyped into one dull mould."

Mahomedan Education in Travancore, by Mr. M. Krishnan Nair.

The following is extracted from the speech of Mr. M. Krishnan Nair, Dewan of Travancore, at a meeting to honour Mr. S. Muhamad Sulaiman Sahib, the first Mahomedan graduate of Travancore:—

Gentlemen: I thank you sincerely for asking me to be present here to-day and take an active part in the function of this evening. I am glad to see such a large number of Mohammedan gentlemen before me. According to the last census, you constitute more than two-and-a-quarter lakhs of the population of Travancore. Numerically, the Mohammedans of this State are thus in no way insignificant. But I regret to observe that educationally they are rather backward. Taking the school-going population at 15 per cent. of the total population, the total number of Mohammedan children under instruction in this State at the close of 1908 was only 14 per cent. of the school-going population of that community, while in the case of Nairs, Christians and Ezhavas, some of the other important communities in Travancore, the corresponding figures were 74, 54, and 25, respectively. Again, with reference to literacy, the percentage of literates amongst the Christians and Hindus is 18 and 14 respectively, while amongst the Mohammedans the number of literates in a thousand is only 94 or less than 10 per cent. This state of affairs shows that educationally the Mohammedan community in this State is in a backward condition. All lovers of the community must, therefore, make earnest efforts to improve its condition. The Government of His Highness the Maharaja are doing their best to promote education among the members of your community. As you are aware, the rates of fees

for Mohammedan students in all departmental institutions are half of those prescribed for ordinary students. Again, consistently with efficiency, special concessions are granted by the Government to Mohammedans with reference to employment in the Public Service. But you will readily admit that there are limits beyond which the Government cannot go. No doubt, external aid is, within certain bounds, useful and necessary. But real and lasting benefit to a community must be the result of its own exertions. And as a friend of your community, I advise you, gentlemen, to put forth your best endeavours to improve the educational condition of your co-religionists, so that they may not be left behind in the race of life.

The present occasion is a unique one in the history of the Mohammedan subjects of His Highness, our beloved Maharaja. We are assembled here to-day to do honour to the first Mussalman graduate of Travancore. I heartily congratulate Mr. S. Muhamad Sulaiman Sahib on his having been the first member of his community in this State to win this distinction. His example and to-day's function will, I believe, serve as an incentive to his fellow-Mohammedan subjects to send their children to school and give them the benefit of higher education. Let us hope that the time is not far distant when there will be many graduates amongst the Mohammedans of Travancore. With great pleasure I present this medal on behalf of the Mohammedan community of Travancore to Mr. S. Muhamad Sulaiman Sahib.

Mr. G. T. Boag on the Study of Literature.

The following is extracted from the Inaugural Address of Mr. G. T. Boag, I.C.S., to the T. S. Literary Union, Madura:—

Mr. Boag began by saying that he was extremely ignorant of the aims and objects of the Society. He assumed that the purpose of the Society was to study literature. He wanted to arrive at a very clear definition of what they meant by literature and he had been able to define literature as the art of expressing ideas in words. It was a very wide definition and it included everything that ought to be included. It embraced the expression of ideas in spoken words, dramas, books of every description and even newspapers. If literature was the art of expressing ideas in words, it followed that there must be two factors precedent to the production of literature—the author must have ideas to express and he must know how to express them. In the

production of literature the two factors must go together and the author must in the first place know exactly what he wanted to say and in the second place he must be able to choose the form and the words which exactly conveyed his idea.

Referring to the objects of studying literature, he said that most of them studied it in order to improve the language in which literature was written. To do that it was necessary that they should not only read books written a hundred or even more years ago, but should also resort to Magazines, Reviews, and leading articles in the newspapers, for the reason that the language changed as men's ideas changed with the length of time. A few of them studied literature with a view really to know the writer's idea behind the words and to understand it. That was the object with which most people studied and continued to study the best literature. It was a recreation after a long day's work to sit down with a book, read it over and over again and discover a new turn of thought. They studied the works of great men in order to understand their ideas, the things they thought and the principles they desired to impart. If they once grasped the purpose with which the author wrote his works, they would not fail to sympathise with him and share, in some measure, his thoughts and feelings. In studying literature with that end in view, people derived a good deal of pleasure and profit.

Speaking on the necessity for cultivating a literary style the lecturer said that he hoped that some of them, if not all, studied literature with a view to form a literary style of their own. He did not want to say that all of them expected to become authors. Everybody was not favoured with the spark of genius which was necessary for that. But he would say that it was within the power of every one to acquire the faculty of putting his own thoughts into clear words which exactly expressed the idea in his mind. To the speaker's mind literature meant the medium of expressing one's ideas accurately. A literary style was useful to everybody and especially to scholars. They all knew that in this country there was any amount of scope for research work. There were numerous records to be examined, inscriptions to be deciphered, the history of past ages to be interpreted to the men of to-day, and the results of Western Science to be mastered. Indians had a science of their own which had advanced on different lines and surely they had a good deal to teach the Westerners about Indian science. Many men, the speaker knew, were very wise and learned but they could not express what they had in

their minds. The world derived no good from them and though they possessed immense knowledge, the world was not the richer for it.

Agricultural Education, by the Hon. Mr. L. E. Buckley.

The first session of the fourth Agricultural Conference held under the auspices of the Madras Agricultural Students' Union, commenced at Coimbatore on the 19th instant, when the Hon'ble Mr. L. E. Buckley, in opening the Conference, said:—

The calling you have chosen is one of the most useful in the world, and especially so in this country where so large a part of the population depends upon the soil for its employment and existence. I want to impress upon you, though I think you all fully realise it already, how very much depends upon your devotion to duty. We do not want in the Department the man who does as little as he can without being found fault with or who carries out his work in a slipshod way without a care of what the result may be. The interests at stake are enormous, and you workers are only units amongst millions. We cannot afford to make mistakes and thereby sow amongst the people whom we wish to help, the seeds of distrust in our efforts. It is necessary therefore that every member of the Department shall throw his whole heart into his work and make up his mind that everything he does shall be done to the best of his ability. And I am thankful to say and I congratulate you all upon it—that judging by results that is what the Department has set before itself as its ideal. The Department has been in existence for a considerable period but in its early days it had not a chance of indicating its usefulness. It was starved, it had to serve too many masters, who quarrelled about its management. It received but scant encouragement, and the site of the institution to which place its future members were sent to learn their work was ill-suited to practical purposes. Yet, in spite of all this the College at Saidapet turned out a faithful few of excellent merit. In recent years, however, a new policy has been conceived, a new and generous policy which we owe to the all-embracing genius of Lord Curzon and which the Government of Sir Arthur Lowley was quite willing to act up to in Madras. The result of that conception so far as we have carried is this College of which any country might be proud, and the staff of young and keen officers who are to-day employed either in this College or scattered about in various parts of the Presidency.

Already the need for further expansion has been realised, and it is an open secret that the Department is to be considerably strengthened. You, first year men here, of whom I am glad to welcome 40 in place of the usual 20 are evidence of the first step towards the contemplated expansion, and I have no doubt that you will all be gratified to hear that a proposal for the improvement of your prospects goes hand in hand with the proposal for the increase in numbers.

The good the Department has been able to do in the past few years has been great, but there are still innumerable fields for you to conquer, and your power for doing good is infinite. You—I speak of the department—have shown what you can do in the childhood of your existence; let every one be determined that you will more than fulfil the promise of your early days. Amongst us Britishers there has been a feeling of deep love, reverence and gratitude to the School and College where we have been fitted out for our life's work. This feeling has led to a sense of common brotherhood in those who have to be in the same seats and learn in the same halls, but more than that it has helped to fix a high standard of duty lest anything which may be done by one of her sons should bring discredit on School or College. I am glad to see that such a spirit is growing up here in connection with this College. The existence of your Students' Union and your annual meeting at which so many old boys attend are proofs that you have grasped the underlying principle. May the spirit ever flourish and it will make you better and better servants of the people whom it is your work to serve.

(FOREIGN.)

Thomas Carlyle, by Mr. Clifton Yorke.

Some years ago, when the social and political issues that mark our present rather complex age were nothing like so clearly defined, when men still responded joyously to party war cries, and believed fervently in party divisions, when the assertion that Liberalism spelt "progress," and that Toryism meant reaction, was regarded as a political equipment for politics, I remember hearing a very eminent man of letters declare that the most important event which had happened in Europe since the French Revolution was Thomas Carlyle! He went on to explain that whereas, of course, the revolution was a great landmark in the history of democracy, the genius of Thomas Carlyle had been, consciously or unconsciously, directed against the very tendencies that it set up, and that properly regarded the Sage of Chelsea must be viewed as one of the most powerful anti-democratic forces in the

nineteenth century. At the time that these words were uttered they seemed more than a little staggering, but, writing now after due reflection, I am not sure that their author was not right. This at least is certain, that whoever else would challenge the description of himself as an opponent of democracy it is certain that Carlyle would not. "Full of large-hearted sympathy with the poor and oppressed, and of intense hatred of the cruel and shallow sophistries that in his time passed for maxims almost for axioms of Government," Carlyle nevertheless was full also of that rooted distrust of the average man, which cries aloud for a leader, a Koning man, to shape his destiny and that of the race; or, failing that, for legislation to keep him severely within bounds. If we fail to recognize that salient fact we shall, I am convinced, fail also to discern the full power of Carlyle's genius for, let it be said at once that more than anyone else Carlyle is responsible for the general acceptance of this view; the view that, while the welfare of the people remains the supreme law, yet they are to have very little to say about that welfare themselves, but are to be protected, guided, regulated and controlled against all the dangers of life. That is not, I think, an unfair summary of current social philosophy, and its triumph must be attributed more to the genius of Thomas Carlyle than to any other factor.

There is no doubt that it was Carlyle's intense earnestness, his passionate sense of the value of life and of its opportunities, and his even more profound belief in the value of work, that drove him to take up this attitude of benevolent suspicion towards the man in the street, whom sometimes he loved and sometimes hated, but whom he never really trusted. Mr. G. K. Chesterton insists that Carlyle, so far from being an astere and gloomy figure, was in fact responsible for the introduction of the element of exuberance and phantasy into the literature of the nineteenth century, and he instances Carlyle's most characteristic work, "Sartor Resartus." But one cannot help remembering all the same that, phantasy apart, Carlyle's general view of mankind was that he should be kept hard at it, with his nose to the grindstone, and that only so could he escape the full effects of that original sin, which the Sage of Chelsea never forgot to emphasise. One recalls his contemptuous denial of the right of happiness to the human race—nay, his rebuke of its very expectation in "Past and Present," and one is driven to the conclusion that the Calvinism of his race had eaten into the very bones of the

man, and that, for all his love and pity, his burning indignation, his tender compassion, his view of man was tinged with a vivid sense of the doom and terrors that even in this life surrounded him. In a word, while he is impressed to the point almost of frenzy with the necessity of saving man, he is saturated with the belief that man cannot save himself.

Let it be admitted, however, that it was this genius of indignation, this passionate, almost unmatched sincerity of feeling, that gave him some of his most superb triumphs. As a maker of phrases, Carlyle stands unmatched in the whole of our literature, phrases that, forged at the white heat of his scorn, rang through England and were destined to make history. They are characterised, nearly all of them, by that swiftness and sureness of touch which compels acceptance. Despite his occasional crudities, and his frequent exaggerations—his rhetoric, and especially his descriptive rhetoric, is unsurpassed in the language. It is not merely that he makes you see a great scene, he compels you to feel it, and to feel with the principal actors, each and all of them one after the other. Take, for instance, some of the chapters in his "French Revolution." It may safely be said these are incomparable; in truth, there is nothing to compare them with in the whole realm of English literature. The flight of the King from Paris, the fall of Robespierre, the death of Mirabeau, and, above all, the opening chapters, where history is made to gallop like the horses of the flying King himself, but where nothing material, nothing that counts, is missed—where shall we find anything approaching the force or vividness of these wonderful word-pictures that seem to bring before us the very souls of the men and women who took part in them? Carlyle, in fact, is unmatched at this particular kind of writing just as his industry is unapproached. His grasp of facts, his capacity for arranging detail, his instant perception of the true relative value of all the thousand and one intricate facts to each other; these, like his wonderful style, are the products of his intense love, his almost fierce pity for his brother-man, and not less than his style do they heighten the power of those extraordinary contributions to literature and journalism, which did so much to change the thought of the nation during the lifetime of our father.

I have said nothing, and purposely, about the much-vexed question of Carlyle's private life. "The Reminiscences," as Mr. Burrell happily remarked, "surprised most of us, pained not a few, and hugely delighted that ghastly crew, the

wreckers of humanity, who are never so happy as when pulling down great reputations to their own miserable levels." But, for all his defects of temper, for all his perversity, Carlyle was cast in the heroic mould. Let anyone who doubts that read his own account of that famous episode—the destruction of the MS. of his "French Revolution." He had lent it, the flower of his genius, the product of many years of hard, unrelenting work, to John Stuart Mill—to learn a little later that it had been destroyed through the mistake of a servant. We know how Carlyle took the blow; we know with what calmness he decided, there and then to do the work over again. How many of his detractors could have summoned a tithe of his fortitude?

Science in East and West, by Mrs. Besant.

'Science in East and West' was the subject of a lecture delivered by Mrs. Annie Besant in St. Andrew's Hall, Glasgow, on June 4 under the auspices of the Theosophical Society. Lord Provost Stevenson presided over a large attendance.

Mrs. Besant said the Science of the East as we knew it was practically the Science of India. In that country they had a vast and ancient literature, which showed that Eastern thought in scientific and philosophical lines of thought had very much to help and to instruct Western thought. The modern teaching in the West was going back to some of the most ancient teachings in the East. That was specially true of psychology, that which was prominently the science of the East—studying science as it was found in man, especially studying it from within rather than from without. Professor Bergson in his Edinburgh lectures, speaking on the most modern of modern psychology, pointed out that we ought not to speak of mind as secondary and body as primary, that we ought not to think of the body as bringing forth the mind but of the mind as causing the body, that we ought not to say that the mind was in the body but that the body was in the mind. Bergson was going back to the old Eastern thought. He was realising that life and mind were primary things, and that bodies were formed by them for self-expression. He was only reproducing Eastern thought in Western garb, and going back to the life with creative activity which matter was trying to usurp but was utterly unable to direct. She believed that Western science could help the Eastern by giving physical demonstration of the facts of the higher world. The one working from

above downwards and the other rising from below were beginning to meet in the borderland of science, into which some of our scientific men were advancing at the present day.—*The Glasgow Herald*.

THE UNIVERSITIES.

ALLAHABAD UNIVERSITY.

Amendments and Additions to Regulations.

In accordance with the provisions of section 20 of the Allahabad University Act, 1887 (XVIII of 1887), many amendments and additions to the University Regulations have been made by the Senate of the Allahabad University and sanctioned after certain alterations, by the local Government, under section 25, sub-section (1), of the Indian Universities Act 1904 (VIII of 1904). The following are some of them:—

In Chapter IX.

'9. All applications for affiliation must be made not later than the first of October in the calendar year preceding the one in which it is proposed to open new classes.'

Regulation 12, Chapter XII, is changed as follows:—

'12. With the exception of the Previous Examination in Law, and of the Practical Examination for the B.Sc. degree, each of the examinations subsequent to the Intermediate Examination in Arts shall be held once every year at Allahabad, and the examination for the Degree of Bachelor of Arts at Nagpur also, and shall extend over such days as the Syndicate shall appoint.'

The second clause of Regulation 2, Chapter XVI, is changed as follows:—

'Before a candidate from an affiliated college will be permitted to present himself at the Intermediate Examination in any Science subject for which a practical course is necessary under the Regulations, he shall produce a certificate from the Principal of such College, to the effect that he has completed the required course in the College Laboratories. In the case of candidates in any such Science subject admitted under section I (iii) of this Chapter, evidence must be produced that the candidate has completed the required course in a laboratory approved by the Syndicate'

Regulation 5, Chapter XVI, is changed as follows:—

'5. The Intermediate Examination shall be conducted by means of papers, except in the case of Science subjects, Physics, Chemistry and Biology, and the same papers shall be used at every place at which the examination is held. With the necessary exceptions in the Language papers, every question shall be set and shall be answered in English.

Candidates who take up Physics, Chemistry or Biology, shall be required to undergo a practical examination also in these subjects.'

Regulation 11, in Chapter XVI, is read as follows:—

'11. Any student who has passed the Intermediate Examination may appear at any subsequent Intermediate Examination, for any or all of the Science subjects, Physics, Chemistry and Biology, provided he produces evidence, satisfactory to the Syndicate, that he has completed the practical course prescribed. Any student who obtains pass-marks in the subject in which he is examined, shall receive a certificate to that effect signed by the Registrar.'

Regulation 2, Chapter XVIII, is read as follows:—

'The examination for the Degree of Bachelor of Science shall be conducted partly by means of papers, and partly *viva voce*. Candidates shall also be required to undergo a practical examination, which will be held at such times and such places as the Syndicate shall direct.'

PROPOSED C. P. UNIVERSITY.

The Draft Scheme.

The Central Provinces University Committee began their sittings from the 23rd instant. Mr. Jones, the officer on special duty, had prepared a draft-scheme as the basis of discussion. The scheme follows the Patna model generally, provides for 900 residential and 190 non-collegiate students in the Central Colleges and 630 in the Jabalpur and Amraoti Arts Colleges. The School Leaving Certificate is proposed to be substituted for the Matriculation.

The Jabalpur and Amraoti Colleges are to teach science only up to the Intermediate, Arts up to the B.A. Pass, Higher Science, Honour and Post-graduate Course are centralized in the University colleges. The one important departure proposed is that the Intermediate course should cover three years, B.A. two, and M.A. one, the law students taking the law course

after the Intermediate. No provision is made for Engineering, Commerce or Medical education. Agricultural education is also not included in the scheme.

Political Economy is included in the Intermediate. Non-collegiate students are to reside with parents and *bona fide* guardians alone.

The re-admission of failed candidates is restricted to 20 per cent. of the total in the class.

The scheme proposes how many Indian Educational Service men, Provincial and Subordinate Service men should be entertained. The warden is to belong to the Indian Educational Service and should keep watch over the non-collegiate students.

The tutorial system provides one tutor for 50 students.

The Senate's proposal consists of 75 members including *ex-officio*, nominated and elected members.

There is to be an Appointment Board, whose duty it would be to endeavour to secure suitable positions in life for the University men.

The Syndicate is to have the power of corresponding with Government direct.

TECHNICAL EDUCATION.

TYPEWRITER TOPICS.

SMITH PREMIER FACTORY ACTIVITIES.

This is a period of considerable activity at the Smith Premier Typewriter factory—an activity which is not appreciably affected by the slackening up of work which usually occurs in typewriter factories during the summer months. In addition to the work on the regular product, the Wahl adding and subtracting attachment has begun to figure prominently in connection with machines coming out of the Smith Premier factory. This is unquestionably due to the fact that the Smith Premier Typewriter has some points of special adaptability for use in connection with an adding attachment, notably the "key for every character," which permits the introduction of a set of numerical keys distinct from the adding keys.

REMINGTON SUCCESSES ON FIVE CONTINENTS

Five continents, North America, South America, Europe, Asia and Africa, have all made their contributions to the remarkable chain of Remington successes during the past month. South America contributed what is said to be the largest typewriter sale ever made on that continent.

The most notable contribution from Asia was the sale of 40 of the new Garmuhki Remingtons to a prominent Indian prince. Africa's contribution came from Cairo, where the Remington branch office made the sale to one of the Egyptian Ministers, also said to be the largest typewriter sale ever made in that country.

From Europe comes the story of two especially notable Remington triumphs—one in Belgium and the other in Scotland—in each case an exclusive contract with one of the leading concerns in these countries.

In North America the Remington successes have been legion. In New York City, the leading concern in its line in the country, and heretofore a non-Remington user, has standardized on the Remington, and other individual successes are reported from many other cities.

UNDERWOOD VICTORIOUS IN ITALY.

The National Stenographic Typewriting Contest took place in Milan during a portion of the first week in May. Under the patronage of His Majesty the King, the prizes were distributed before prominent authorities.

The Underwood Typewriter was awarded the championship of northern, central and southern Italy. Alfredo Tombolini, the Italian typewriting champion, operating an Underwood typewriter, officially established a new Italian speed record with a total of 621 net strokes per minute. A group of three typists equipped with Underwood typewriters won the prize contest of the Industry of Typewriting Mechanism, the gold medal awarded by His Majesty the King. A second group of three typists operating Underwoods won the gold medal awarded by the newspaper, *Corriere della Sera*. Another group of three typists from the Royal Navy, also operating Underwood typewriters, won the great medal of the Ministry of Public Instruction. As a result the Underwood Typewriter, represented by Dimiani & Giorgio, Venice, won a total of 60 prizes, including four silver cups, 11 objects of art and many gold medals.

The following resolutions were adopted at a Conference held recently of some gentlemen interested in industrial education at the office of the Director of Industries, Madras:—

Resolved that we express our appreciation of the courtesy of the Director of Industries in inviting into Conference with himself so many men and women from all parts of the Presidency, who are keenly alive to the needs of thorough industrial education and deeply in earnest in the

desire to co-operate with the Government in carrying it through. We believe that a very long stage toward the realising of this end has been traversed by this Conference.

That we approve of the plan that each Society organisation that maintains such work be asked to appoint a representative, authorised to stand for its aims and methods, in a Council for Industrial Education; that from this large Council a smaller sub-committee for administrative purposes be elected at its first meeting.

Resolved that a sub-committee of the Council to be formed be requested to draw up a syllabus for the course required in the training of foremen and journeymen: this syllabus to be discussed, amended if necessary and adopted by the Council and Director of Industries.

Resolved that the Director of Industries be requested to establish a Central Industrial Normal School, to train teachers for Industrial Schools.

Resolved that the Director of Industries be asked to gain assurance from the Director of Public Instruction that a maximum of six hours a week will be devoted to manual training, to be counted as school time supervised and reported on by the Director of Industries and eligible for grants-in-aid.

Resolved that we consider the Government Technical Examinations, as at present carried on, are unsatisfactory. We, therefore, recommend that these examinations be abolished completely, and that the Director of Industries be asked to arrange a more satisfactory and useful plan for registering the progress of industrial pupils.

Resolved, in view of the extreme importance of cash-keeping, in all classes of manufacturing industry, that provision be made for training in works of accountancy.

Resolved that the Director of Industries be requested to prescribe the forms of accounts to be maintained by the Managers of Industrial Schools.

Reviews and Notices.

SOUND: AN ELEMENTARY TEXT-BOOK FOR SCHOOLS AND COLLEGES, BY J. W. CAPSTICK, M.A. CAMBRIDGE PHYSICAL SERIES. Pp. vi + 296. (CAMBRIDGE UNIVERSITY PRESS.) PRICE 4s. 6d.

The book opens with a clear statement of the fundamental conceptions regarding the nature of sound. This is followed by a discussion from the physical and mathematical standpoint of vibratory motion in general and simple harmonic motion. The properties of transverse waves are next elucidated and this paves the way to the study of longitudinal waves. The laws of transmission and velocity of such waves in different media are given in fair detail. The phenomena of reflection and refraction of sound with their practical applications and Doppler's principle are next explained. This is followed by a study of interference of sound waves, beats, combination tones and difference tones. From free vibrations so far discussed the author passes on to the subject of resonance and forced vibrations. Attention is next directed to Helmholtz's theory of the quality of musical notes. Fourier's theorem and its applications are briefly discussed and the instrumental appliances for analysis and synthesis of complex vibrations explained. Reference is also made here to the structure of the vocal organs and to the two theories regarding the difference between the vowels. Flue pipes and reed pipes are next studied in detail and the discussion of the vibrations of different classes of bodies is concluded with a clear account of the modes of vibration of rods, plates and bells. The next chapter is devoted to acoustical measurements and describes the methods employed by different investigators for the measurement of pitch, intensity and velocity. The principles underlying the working of the phonograph, microphone and telephone are then briefly explained. Helmholtz's theory of consonance is dealt with and scales and methods of temperament in common use are also detailed. The book concludes with a description of the details of construction and mode of use of several musical instruments. There is also given at the end question papers on the matter of each chapter and in these papers the difficult questions are differentiated from the simpler ones. Difficult portions in the body of the book which the elementary reader could omit are marked out from the rest.

As an elementary treatise on Sound the book leaves little to be desired. Descriptions and ex-

planations are very clear, the order of development of the subject is logical, both theoretical and practical aspects receive attention, and knowledge only of elementary mathematics is assumed in the reader.

The book supplies the real want of a suitable introductory text-book to the subject of Sound more especially to the students of Physics and also to students of music. It fully deserves and we hope will receive a large measure of the patronage of our University students of Physics.

JAYASEELAN: A TAMIL NOVEL, BY MRS. N. SWAMINATHAN. (C. COOMARASWAMI NAIDU & SONS) Re. 1.

A good novel in Tamil by a lady is a rare phenomenon. Our lady-novelists are not experts in the craft of story-telling. We must confess, therefore, that when we took up *Jayaseela* we did not promise ourselves much of entertainment. But we must say that we were very agreeably surprised to find that Srimati Meenakshi-Sondarammal' (Mrs. Swaminathan) is an adept in the art. The dialogues which are in the Brahmanical dialect are ravishing. The main defect is that the plot is loosely put together; the minor defects include occasional mis-spelling and the lack of consistency in the observance of *Sandhi* rules. We cannot place this novel on a level with *Pratapa Mulaliar* or *Kamalambal*, but we are sure that it is inferior only to them in merit. Probably no better novel has appeared in recent years.

ELEMENTS OF HUMAN PHYSIOLOGY, BY N. SWAMINATHAN, B.A., L.T., SUB-ASSISTANT INSPECTOR OF SCHOOLS. (C. COOMARASWAMI NAIDU & SONS, MADRAS.) 4s. 8.

The author and the publisher have both done their work to our satisfaction. The book is well-printed and neatly bound. The illustrations are good. The author has been careful in selecting good Tamil equivalents for the scientific terms which have to be used in writing on subjects like this. We are sure the book will be useful to those for whom it is intended.

THE PURPOSE OF EDUCATION, BY ST. GEORGE LANE FOX PITT. (CAMBRIDGE UNIVERSITY PRESS.) 2s. 6d. net.

The question of the 'Purpose' of Education is best studied only with reference to the nature and workings of the human mind. Recent psychological research has thrown a flood of light on the problem of the human mind or personality. It is a composite of a number of complexus, and its unique character is by no means easily explained. A fairly adequate conception, however, is afforded by the illustration of the iceberg, with the precise nature of which recent disasters have only made us too familiar. In addition to its being a complex, there is this other feature about it, the bulk of it is invisible. Two inferences can be drawn from this position. *Firstly*, the various complexus that make up the sum total of human personality should be made to develop harmoniously together. In simpler language this means that there should be a regulation of the emotional and instinctive tendencies of our nature, the lower being subordinated to the higher, and an evaluation of the loftier feelings and volitions. This leads to the conclusion that the awakening of character should be the 'purpose' of education. *Secondly*, the bulk of it is invisible and submerged. This points to the risk that there is of the *spiritual* side of our nature being ignored; the world is too much with us. The purely economic struggle and the wholly *material* estimate of 'relative values' characteristic of the present day are rightly condemned and the author clearly points out the need that there is for a moral and religious atmosphere in popular education.

In discussing the details as to how this end is to be achieved, the fallacy in the doctrine of formal discipline is exposed and the risk run by 'over specialisation' pointed out, for, it should not be forgotten that 'versatility' is a valuable human quality and essential to good citizenship.

The book contains remarks and reflections of great value which point to the conclusions of recent psychological research being in strict accord with the teaching of the 'Sermon on the Mount.'

MANUAL FOR TEACHERS OF PRIMARY SCHOOLS IN INDIA, BY J. A. RICHEY, DIRECTOR OF PUBLIC INSTRUCTION N.-W. FRONTIER PROVINCES AND BALUCHISTAN. MESSRS. MACMILLAN & CO., LONDON.

The manual is evidently the outcome of the author's experience of Primary schools and their

work. The topics it deals with are just such that our elementary teachers need to know about. The broad general principles underlying the practice of teaching are explained in clear and simple language; the hints and suggestions as regards the teaching of the several subjects of the elementary school curriculum are all practical, while the last chapter on the special difficulties of teachers in rural schools shows the active sympathy that the author has for the teachers. The manual is sure to be of great help to those for whose benefit it is intended.

PUBLICATIONS RECEIVED.

- Oxford Story Readers: Arthur and His Knights, Oxford University Press. 2d.
 Book-keeping and Accounts, in Tamil, by K. Natesa Iyer, Commercial Instructor, K. H. School, Tanjore. Rs. 3.
 Longmans' Indian Series: Milton's Sonnets, edited by Egerton Smith, M. A. 8 As; Coleridge's Ancient Mariner, by Egerton Smith, M. A. 8 As. Bombay: Longmans.
 The Fundamental Unity of India (from Hindu Sources), by Radhakumud Mukherjee, M. A. London: Longmans. 3s. 6d.
 Education and Psychology, by Michael West, M. A. London: Longmans. 5s. net.
 A School Course in Geometry, by W. J. Dobbs, M. A. London: Longmans. 4s.
 Select Passages on Duty to the State, First and Second Series, by J. G. Jennings, M. A. Oxford University Press.
 Illustrations to British History, by J. Turrel, Oxford University Press.
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 Indian Tales, by S. B. Banerjee. Oxford University Press.
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 The Thinking Hand, or Practical Education in the Elementary School, by J. G. Legge. London: Macmillan. 8s. 6d. net.
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- A School Geometry, Parts I—V, by Hall and Stephens. Bombay: Macmillan. Rs. 2.
 Macmillan's New English Readers: Book IV, 12 as; Book IV B, 12 As. Bombay: Macmillan.
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 Sobrah and Rustum, edited by R. F. Tomlinson, I. E. S., Bombay: Macmillan. 8 As.
 Lamb's Tales from Shakespeare, edited by A. R. Weekes, M. A. London: University Tutorial Press. 1s. 4d.
 Chemical Calculations, by H. W. Banson, M. A. Do. do. Advanced Grade. London: University Tutorial Press.
 The School French Grammar, by Earnest Werkley, M. A. London: University Tutorial Press. 2s. 6d.
 The Edgeworths, by A. Paterson, M. A., Ph. D. London: University Tutorial Press.
 A Systematic Course of English Composition, by H. Pine. London: Ralph, Holland. Part I, 6d., Part II, 6d.
 A Regional Geography of the Six Continents—Book I, Europe, by E. W. Heaton, B.Sc. London: Ralph, Holland. 1s.
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- Greatheart of Papua, by W. P. Navine. Oxford University Press. 2s. net.
 Herbert Strang's Readers: Grade I Rough, the Story of a Dog; A Stitch in Time; Grade II Brave Marget; A Little Norman Maid; Grade III. Our Great Adventure; Cerdic the Saxon; Grade IV. The Story of Francis Drake; The Silver Shot. Oxford University Press.
 The Schools and the Nation, by Dr. Georg Kerschenstiener. London: Macmillan. 6s. net.
 Jayaseelan (in Tamil), by Mrs. N. Swaminathan. Madras: Coomarasami Naidu. 12 As.
 Elements of Human Physiology, by N. Swaminathan, B.A., L.T. Madras: Coomarasami Naidu. 8 as.
 Practical Physical Chemistry, by F. W. Gray, M.A., D.E. London: Macmillan. 4s. 6d.
 Chambers' Supplementary Readers: The Little Mermaid, 3d.; Russian Fairy Tales, 3d. London: Chambers.
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 Tamil Novellettes, by T. Chelvakesavaraya Mudaliar, M. A., Pachaiyappa's College, Madras. 6 As.

Indian Educational Notes.

MADRAS.

Government Grants.—The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 5,125 towards the cost of constructing a building for the S. P. G. School at Nagalapuram in the Tinnevely district subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available. The irregularity of having constructed a portion of the building in advance of the sanction now accorded will be condoned as a special case.

The maximum amount of grant sanctioned in G.O. No. 48, Educational, dated 13th January 1913, towards the cost of extending the building occupied by St. Patrick's Civil and Military Orphanage,

Adyar, will be raised from Rs. 28,100 to Rs. 36,850 subject to the condition that the suggestions of the Chief Engineer in his note are adopted.

The maximum amount of grant sanctioned in G.O. No. 923, Educational, dated 6th October 1913, towards the cost of additions and improvements to the building occupied by the Town High School, Guntur, will be raised from Rs. 7,250 to Rs. 8,525.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 17,682 towards the cost of extensions to the United Free Church Mission High School buildings at Chingleput and for constructing a warden's quarters and two hostels there, subject to the following conditions:—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Government sanction a grant of Rs. 17,580 to the Municipal Council of Mayavaram towards the cost of improvements to the High School buildings. The Accountant-General will be requested to place the amount at the disposal of the Council.

H. E. the Governor at Anantapur.—His Excellency and party visited the Municipal High School and Training School located in the same building. At the Municipal School His Excellency was received by Mr. S. N. Venkataramayya, Assistant Inspector of Schools, and conducted through the classes at work by Mr. A. Arunachala Iyer and Mr. T. Ramaniya Ayya, the Head Masters of the respective schools. In the afternoon His Excellency laid the foundation stone of the new separate building for the school.

TALUK MIDDLE SCHOOL.

There was a Taluk (Middle) School at Anantapur for many years, but it ceased to exist in 1877-78. When Anantapur became the head-quarters of a new district in 1882, the necessity for a school was felt and the establishment of the Tiruvadi Government School was transferred to Anantapur in January, 1883. About the end of that year the school was handed over to the Municipal Council for management. It slowly developed and became a High School in 1886. The Municipal Council, found its revenue insufficient to maintain the school on a proper scale. On a representation made by the public of Anantapur, Government improved the school and undertook to meet the net cost of the school from Provincial funds. Since then the school has been growing in strength. There are now 55 pupils. The lowest class is the second standard which was opened in July, 1913. The appointment of a Hindustani Munshi for one year from July 1913 has been sanctioned and an application will be made for his permanent retention on

the High School staff. There are on the staff 19 teachers, including three Paudits (one Sanskrit, one Telugu and one Hindustani), Instructor in Short-hand and Type-writing and an Agricultural Instructor who was entertained from 1st April 1914, to attend to the preliminaries suggested by the Principal, Agricultural College, Coimbatore, and the Director of Agriculture, Madras, and to begin work from the commencement of the school year. Government have sanctioned the construction of a new building for the school at a cost of Rs. 65,000, and materials are being collected for the work. As many of the students come from out-stations, the necessity for a hostel is felt. The need has been recognized by the Director of Public Instruction on the recommendation of the Inspector of Schools. The Director of Public Instruction has called for preliminary plans and an estimate for a hostel to accommodate 20 students in order to obtain administrative approval of Government. The question of raising the scale of salaries of the teachers is under correspondence.

THE TRAINING SCHOOL.

The Government Training School was started as a Local Fund Normal School in 1883, as a necessity for it arose on the formation of the new Anantapur district. It became a Government institution in January, 1892. It is of the elementary lower grade. There are 47 teachers under training, and the new model school attached to it, which teaches up to the fourth standard, has 66 pupils. There are eight teachers on the staff, excluding the Gymnastic Instructor. Under the scheme recently sanctioned for the re-organization of Training Schools in the Presidency it has been ordered that this school should be abolished, but its retention, as a temporary measure, for one year, has been sanctioned. There is, however, a large demand for teachers on account of the extension of primary education. The Director of Public Instruction has remarked in the Administration Report for 1911-12 that the abolition of some of the existing Training Schools is undesirable.

The Ernakulam College.—On the eve of his departure from the College as Editor of the *Madras Times*, a farewell address was presented to Mr. Glyn Barlow by his students, past and present. The spacious College Hall was filled to overflowing with students and was further adorned by the presence of the *élite* of the Ernakulam public. There was a sprinkling of ladies—European and Indian—on the occasion. Many of the princes of the Cochin Royal family were good enough to grace the occasion with their presence. The function was presided over by H. H. Rama Varma, the 10th Prince of Cochin, who is well-known for his sympathy, his affability, and his interest in public matters.

After a few introductory remarks by the President the farewell address was read by one of the students.

MR. BARLOW'S REPLY.

Mr. Glyn Barlow made a graceful and touching speech in reply. He observed that he was deeply

touched by all the kind things said of him in the address and that he was indeed very sorry to leave the Ernakulam College.

Mr. Barlow then proceeded to pay an eloquent tribute to H. H. the Rajah of Cochin—his greatness, his stateliness and kingliness. He had always had the kindest of treatment from the Rajah. His relations with the late Dewan, Mr. Banerji, were always very cordial. He was also in the best of terms with the present Dewan, Mr. Bhore, who was so affable and genial in his nature. His relations with his staff ever since he stepped into the College were of the friendliest and had never been strained. As for the students, they had referred to his sympathy and kindly feelings in the address, and it was true that he had always shown them much sympathy. The College students had always behaved very well towards him and he had never experienced any trouble at their hands. He reminded the students that, if he had taught them any useful lessons, they would strive, in right earnest, to act up to them in their after-lives. In conclusion he wished the students and the College "prosperity unto posterity."

Teaching Grants.—The Government of Madras have approved of the proposal of the Director of Public Instruction to introduce, as an experimental measure, in the four districts of Guntur, Bellary, Chingleput and Madura, the system of payment of teaching grants to elementary schools in *monthly instalments*. The Director has also been requested to submit to Government a report on the working of the system at the end of March 1916 with proposals for its extension to other districts of the Presidency if the experiment is considered a success. Necessary alterations will be made in the Grant-in-Aid Code.

The proposal originated from the Hon'ble Sir Harold Stuart whose speech in the Legislative Council in April 1913 referring to payment of grants at shorter intervals was communicated by Government in June 1913 to the Director and the latter was requested to enquire and report. Sir Alfred Bourne in his usually illiberal manner put a number of restrictions on the proffered generosity of Government. He wrote that an experiment might be tried only in the four districts mentioned above, that monthly payments might be limited to schools recognized for three years in order to eliminate ephemeral schools which deserved no special encouragement, and only to those schools which have had no reduction of grant during these three years, that capitation grant should not be paid in monthly instalments and that the Inspector should have absolute power to suspend the new system in any particular case. The results of the experiment will be awaited with anxiety by the myriads of elementary schoolmasters.

Indian Science Congress.—The second annual meeting of the Indian Science Congress under the auspices of the Asiatic Society of Bengal is to be

held in Madras on January 14th, 15th, and 16th, 1915. The Congress held its inaugural meeting in Calcutta last January and met with considerable success. The President of the Madras meeting is the Hon. Surgeon-General Baunermann, C.S.I., I.M.S., whilst His Excellency Lord Pentland, Governor of Madras, has consented to be patron. A strong local committee has been formed with Dr. J. R. Henderson as Chairman and Dr. J. L. Simonson of the Presidency College as Secretary; it is requested that all communications relating to the Congress may be addressed to the latter.

Women's College.—The Women's College, Madras, has been opened in the buildings till now called the Copper House Hotel, close to the office of the Inspector-General of Police, South Beach. For the present it is a second grade College. This year there will be only Junior Intermediate class and next year there will be Senior Intermediate class. Students will receive instruction in English, the vernacular languages: Sanskrit, Latin, French, Ancient and Modern History and Logic. Those who desire to take up science will have to attend this College for instruction in English and languages and the Presidency College for instruction in Science. Miss Myers will teach English, Miss Dela Hay, Oxford University (Principal), will take up Ancient History and Modern History. A Professor from the Presidency College will impart instruction in Logic. The Malayalam Pandit of the Presidency College has been asked to teach students of this College Malayalam and Sanskrit. Mr. C. R. Namasivaya Mudaliyar, the author of the Tamil primers, has been appointed Tamil Pandit. Arrangements are being made for the teaching of Telugu, Canarese, French and Latin. Already applications have been received from pupils from Masulipatam, Kurnool, Secunderabad, Bellary, Nellore, Ongole, Yercaud, Bangalore, Madras, Pudukotah, Ootacamund, Coimbatore and Malabar. There are at present 12 caste girls including Brahmin girls, 13 Indian Christian girls and 13 Anglo-Indian girls. It will not be out of place to mention here that the daughters of the following ladies and gentlemen have been registered as students of this college:—Mrs Srinivasa, Acting Inspectress of Girls' Schools, Madras, Rao Bahadur N. Pattabhirama Row, late Dewan of Cochin, Mr. S. Narayanaswami Aiyar, retired Director of Education, Pudukotah, Mr. R. A. Srinivasa Aiyangar, Executive Engineer, Madras, Mr. P. Palpu, Superintendent, Central Jail, Bangalore, and Mr. Y. Ponnaiya, Advocate, Bangalore. The site for the construction of a new building to locate the College is yet under consideration. There is a hostel attached to the college. There is accommodation for 22 students. Already 8 students have become members of the hostel. Separate arrangements have been made in the hostel for caste girls including Brahmin girls (a Brahmin woman cook is being engaged), European table for Anglo-Indian girls, and Indian meals for Indian Christian girls. The usual class hours are between 10 A.M., and 4 P.M., with a recess for lunch between 1 and 2 P.M.

The B. G. M. College.—The arrival of W. E. Hoare, Esq., M.A., F.M.V., Principal, B. G. M. College, after a happy though short stay at home of one year took place recently. Grand preparations were made by the students to give him a cordial reception. Some of the students went to Feroke and met him there. Many others including Rev. Miller and some other lecturers received him at the local station. After proposing cheers to Mr. Hoare, he was garlanded by Mr. K. Kovvuni Menon, a senior student, amidst cheers and great applause. He was afterwards taken to the College, where in the beautifully decorated long hall almost all the students had assembled. Rev. Miller was then proposed to the chair. In his introductory speech Rev. Miller expressed his pleasure at seeing Mr. Hoare again in the College and said that he hoped him a bright future. After this, Mr. Raghava Kurup recited an excellent piece in English which was well appreciated by the audience. Mr. J. N. Constantine then read the address to be presented to Mr. Hoare in which the following points were touched upon: that the students of all the classes and forms of the institution had great pleasure to give him a hearty welcome after his pleasant and reinvigorating sojourn in his beautiful homeland. The address continued that the students felt certain that "though separated from him this past year in the physical sense, they could not have been absent from his thoughts and affections." They expressed their pleasure at seeing him again and said that his absence was felt a little by them.

After this Messrs. T. P. Kesava Menon and C. Sekharan Nair garlanded Mr. Hoare and Rev. Miller respectively amidst great applause. Mr. Hoare then delivered a short reply to the address, which was, though short, very interesting. He thanked the students for their trouble in receiving him in so grand a way and said he would not detain them long. He said that what he had to say, would be said not then but on another occasion. In conclusion, he once more thanked the students and teachers.

CALCUTTA.

Mahomedan Education.—The following resolution is issued on the appointment of a Committee to consider the question of the education of Mahomedans:—

The question of the education of Mahomedans has long been engaging the attention of Government. The Government of India have, of late, observed that in the matter of primary education the Mahomedan community now holds its own, but in respect of higher education their numbers are still far below their proportion to the population. The Government of India are therefore anxious that all reasonable facilities should be provided for the education of this backward community and have made certain general suggestions and indicated specific lines of action which they consider likely to prove

useful. The Governor in Council has accordingly decided to appoint a Committee of official and non-official representatives of the Mahomedan community to consider the suggestions made by the Government of India regarding the education of Mahomedans, the resolutions passed by the Provincial Mahomedan Educational Conference which met in Dacca in April last, and any other matters relating to the furtherance of Mahomedan education which the Director of Public Instruction, Bengal, may wish to place before them.

The constitution of the Committee shall be as follows:—The Director of Public Instruction, Bengal, (President), Nawab A. F. M. Abdur Rahiman, Khan Bahadur, Khan Bahadur Maulvi Muhammad Ibrahim, Khan Bahadur Maulvi Absarulla, Shams-ul-Ulama Maulvi Abu Nasir Muhammad Wahed, Members—*official*.

The Hon. Nawab Sir Khwaja Salimullah Bahadur, of Dacca, the Hon. Mr. A. K. Ghaznavi, the Hon. Nawab Saiyid Nawab Ali Chaudhuri, Khan Bahadur Haji Mirza 'Snuja'at Ali Beg, Khan Bahadur the Hon. Mr. A. K. Fazl-ul-Hag, the Hon. Maulvi Mazharul Auwar Chaudhuri, Khan Bahadur Diwan Khundkar Fazl-ul-Kabbi, Mr. Z. R. Zahid Sarwarwardy, Members—*non-official*. The Assistant Director of Public Instruction for Mahomedan Education, (Secretary).

This Committee is appointed not as a standing Committee but specifically for the consideration of the matters indicated above.

Summer Course of Popular Lectures at the Indian Museum.—A series of popular lectures is being delivered during July and August at the Indian Museum by Mr. F. H. Gravely, M.Sc., Assistant Superintendent in charge of Entomology. The lectures deal with the insects and spiders of Calcutta. The introductory lecture was given on Thursday, July 9th, and the subjects for succeeding Thursday evenings are:—'Some Common Spiders' (July 16); 'The Voices of Calcutta Insects' (July 23rd); 'Insects attracted by light' (July 30th); 'Some Bugs and their Enemies' (August 6th); and 'The Fauna of a Bush on the Maidan' (August 13th). The lectures are illustrated by lantern slides.

BOMBAY.

A donation.—Anant Shrivaji Desai, an inhabitant of Malvan in the Ratnagiri district, has contributed Rs. 75,000 to the Bombay Government for the maintenance of a High School at Malvan, and providing scholarships to deserving students from funds available.

Mahomedan Scholarships.—The Government of Bombay propose creating 133 scholarships for Mahomedan boys, each of Rs. 12-8-0 a month, tenable

for four years, from the fourth to the seventh standard. Thus, after the lapse of four years, there will be 532 Mahomedan recipients of these scholarships which will involve the Government in an expenditure of about Rs. 80,000 annually.

ALLAHABAD.

A Mahomedan High School at Allahabad.—At two successive meetings of the Mahomedans of Allahabad held recently at the instance of Maulana Hafiz Wilayat Husain Sahib, Khan Bahadur, the need of establishing a Mahomedan High School at Allahabad was discussed and it was decided to convert the present Indian High School, Allahabad, into a Mahomedan High School, to be known as the Islamia Indian High School, Allahabad. The present manager of the school, Mr. Daulat Husain, has very willingly agreed to the proposal and the management has been taken over by a committee. It has been arranged to teach up to the IX class during the present session when steps will also be taken to get the school recognised. Class X will be opened from the following session, i.e., from July 1915. The school has opened from the 10th instant and will be open to students of all classes and creeds. Arrangements have also been made to teach Hindi and Sanskrit.

New Hindu Girls' School at Fyzabad.—The opening ceremony of the Durgadevi Hindu Girls' School built by the daughter of Rai Gokul Chand Bahadur was performed by Mr. McNair, the officiating Commissioner. A large number including the civil and military officers and the gentry were present to witness the ceremony. Mr. Parmeshwar Nath Sapru addressed the meeting on behalf of Bibi Munni and Bisban Narain, daughter and grandson of the founder, regretting the death of the donor, paying a tribute to his blessed memory, thanking the audience and Mr. McNair, and requesting him to declare the school open. Mr. McNair in a fine chaste Urdu speech, replied and thanked Mr. Sapru who supervised the building. Subsequently he took possession of the boarding and declared the school open. He was given three hearty cheers. The compound was tastefully decorated and excellent refreshment arrangements were made, Indian ladies and girls also attended the ceremony in purdah. The whole ceremony was enjoyable and terminated successfully. All highly appreciated the excellent building and its spacious compound.

Sir James Meston at the Aligarh College.—His Honour the Lieutenant-Governor visited the M.A.O. College on the 17th instant and inspected the Mosque, Lecture rooms, the Strachey hall, the Library and the Laboratories. All the students were in class and some time was spent in listening to the various lectures. Both the forenoon and afternoon to 5 P. M. were

Foreign.

given up to interviews. Shortly after this hour His Honour left Pabasu House by motor and honoured the staff of the College by his presence at a tea party in the Beck Munzil. From here the old boys' lodge and the cricket ground were visited and then the Minto Circle boarding houses, finishing up with the hockey and football grounds. On the 18th an interesting ceremony was performed when His Honour visited the Siddons Union building in the College. He was invited to become an honorary member of the Union and signed the members' book in the presence of all the students. Mr. Amir Ahmad Khan, Vice-President, in an eloquent speech thanked Sir James Meston for the honour he had done the Union and stated that it was the first time on record that the official patron of the College had become a member of the College Union. In conclusion he described the 'Aligarh boy' as a true and earnest believer in the faith of Islam, an independent and patriotic citizen of India and a devoted and loyal subject of the British Crown. Sir James Meston made a brief reply. A debate on the advantages or disadvantages of the simple life then followed. The school hoarding house and the Morison Court were the next items in a lengthy programme, which concluded by visits to the Mumtaz and Macdonnell College boarding houses.

Prof. J. C. Bose at Cambridge.—Following upon his success at Oxford, Prof. J. C. Bose, of the Presidency College, Calcutta, has achieved another in his discourse on Plant Response given on June 2nd, before the University of Cambridge. The interest in his lecture was so keen that the Botanical Department of Cambridge imported some soil from India in order to give his plants the best possible conditions for exhibiting their specific reactions. The large Botanical Theatre was filled with scientific specialists, dons and advanced students, who followed with great attention the experiments with which the lecturer illustrated his discourse. Sir Francis Darwin, in proposing the vote of thanks, said that he was filled with admiration, not only for the brilliancy of the work but for the convincing character of the experiments. The lecturer was an experimentalist of rare skill and ingenuity, and it had moreover to be remembered that he had been obliged to work in great isolation, and to depend entirely upon himself, even for the training of his mechanics, who had constructed for him instruments of such extraordinary delicacy and precision. The problems he had attacked were of wide interest and much might be expected from the furtherance of this work.

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The Educational Review.

Education has been very much to the fore, since His Imperial Majesty referred to it in his Delhi speech. Conferences, recurring and non-recurring grants, and statements of policy we have had galore, but the actual progress as measured by statistics is stated in the recently-published quin-quennial report to be an increase of pupils from 5,388,632 in 1907 to 6,780,721 in 1912. Taking the population fit to go to school to be 15 per cent. of the total population, only 17·7 of the population of a school-going age are at school. And if we remember that the majority of pupils attend primary schools, and do that for less than 4 years, we realize that we are far, very far behind all other civilized countries in the matter of education. It has been calculated that there is one primary school for every 5·3 towns or villages in British India; but the jumbling up of towns and villages in this calculation gives a false view of the question; for as there are, comparatively, many primary schools in towns, this method of calculation does not help us to realize how few schools there really are in the country. The true gauge of the spread of education is the amount of literacy and it has been calculated that out of every thousand persons in the British provinces only 62 are literate. As the causes that depress the spread of education, the following have been enumerated:—"The slight demand for education in an agricultural country, the diversity of castes and religions, the existence of large depressed communities and the social position of women." Since education and education alone can remove or remedy these evils, it is but arguing in a

circle to attribute the lack of the spread of education to them. The report admits that "the quin-quennium has witnessed a remarkable realization on the part of almost all classes of the growing importance of education." But it is the duty of a modern civilized State, not to wait till a demand for education has arisen, but to organize educational work and provide educational facilities for developing the country and in advance of the rise of a demand for education by the people. The head of a family does not wait till his children demand education. Wide-spread literacy is the *sine qua non* of a modern State and should not be treated as an article to be supplied after demand.

There were 176 colleges in 1906-07 and but 179 in 1911-12; but the number of pupils at the number of pupils at colleges has risen from 18,001 to 36,533. The number of colleges has remained stationary because during the period practically as many old colleges have been disaffiliated in the name of efficiency as new ones started. We cannot regard this doubling of the number of pupils at colleges without any appreciable increase in the number of colleges as a healthy growth. It is well-known that the percentage of failures at our University examinations is much higher than would be tolerated in any civilized country. This waste of educational effort is due to the fact that as it is, the quantity of lecturing work done at colleges is disproportionately heavy and tutorial work nil. A rise in the number of pupils without a corresponding rise in the number of teachers will still further raise the number of failures at examinations. As it is, the amount of failure is scandalously high. It

is well-known that year after year numerous pupils that fail in our examinations go to England or Scotland and there, in a shorter time than at our Universities, pass examinations and return as successes, whereas if they had continued here they would have continued as failures. One reason for this is the great size of our classes and the consequent want of real contact between the teacher and the taught. Yet our Universities go on closing existing colleges and concentrating pupils into a few colleges and thus, in the name of efficiency, lowering efficiency all round!

A similar story has to be told about Secondary education. The number of schools has risen from 3,285 in 1907 to 3,674 in 1912, whereas in the period the pupils have risen from 473,130 to 667,068. This, again, will tend to increase the wastage of power involved in the increase of failure in examinations, which Mr. Orange deplored long ago as a marked evil of Indian education. "The most striking feature," said he, "about the number of graduates at the Indian Universities is not the magnitude of their total or any increase in it, but the very high proportion of wastage. It takes 24,000 candidates at Matriculation to secure 11,000 passes;" and if school pupils rise in number without a corresponding increase of schools, it means teaching is less efficient and the wastage of youth more pronounced. The author of the quin-quennial report attributes the enormous percentage of failures in Indian schools chiefly to want of "mental calibre;" he believes that many pupils seek education "whose intellectual characteristics are not fitted for the High School or University course." Nothing can be farther from the truth than this. We do not

believe that Indian youth are of a smaller mental calibre than those of other countries or that in India duffers seek education and clever boys do not. The failure in Indian schools is due partly to "wooden (and lifeless)" syllabuses and methods of testing but chiefly to the fact that in schools there are so many pupils and so few teachers that individual attention is impossible and the interests of the 90 per cent. of pupils are sacrificed to those of the 10 per cent. who are not clever but more apt to pass "wooden" tests.

During the period under report, agricultural education, which in the phraseology of the report is "professional" as opposed to "technical" education received great attention. The Pusa Agricultural College, the Poona Agricultural College, the Sabour College, the Cawnpore College, and the Lyallpur College were either opened or brought into proper working order. The impetus given thus to agricultural research work and the spread of modern agricultural ideas is the brightest feature of education during the five years, 1907—1912. The report refers also to education in Forestry and Veterinary Science in "Professional Colleges and Schools," but no noteworthy activity or special progress is reported on, the same, too, being the case with various apologies for technological institutions that are found in different parts of India. The institutions for the training of teachers, which, strangely enough, are excluded from "professional" schools and treated by themselves received special attention during the quin-quennium; hence the total number of training institutions for men rose from 318 to 500; that of students from 8,225 to 11,887; and the total expenditure from Rs. 10,68,969

to Rs. 17,76,193. The work done in the training institutions is reported to be satisfactory and unlike what takes place in the institutions for general education, there are comparatively few failures; "the strength of the staff and the possibility of bestowing individual attention upon pupils in comparatively small classes render good results possible." In certain provinces a certain amount of training is insisted on in the case of the subordinate inspecting staff; but in the case of the superior part of the staff, neither training in educational method nor in a real knowledge of the vernaculars is considered necessary.

The Conference of Orientalists held at Simla in 1911 was one of the notable events of the quinquennium. It brought out the deplorable fact that "Oriental scholars are few in India;" men like Sir Rama Krishna Bhandarkar, Dr. Thibaut, Dr. Venis belong to a past generation. There are none in the educational service in India to take the places vacated by the general of Orientalists who have advanced to such a high degree of critical Sanskrit scholarship. At the same time the race of Pandits rightly described by Sir R. Bhandarkar "as possessing a depth of knowledge which is lacking in the modern scholar and as capable of giving substantial help" to the critical investigator has very much deteriorated. And the college-bred scholar is a failure either from the point of view of the modern scholar or the Pandit. As pointed out by Dr. Venis, "his daily round of lectures may present him with a play out of Shakespeare and a dish-up of Aristotle or Kant or some period of modern European History and, finally the Sakuntala and the Kirata. His Sanskrit thus links on to nothing in the prescribed 'course' and can find no mental context for itself." And "before he has formed the habits of the true student, he is hurled into the work of life and into a society that recks of the quiet and steady pursuit of literature. When the stress of a professional career is over, and it is time to see about the sacrifices, his knowledge and energy have departed." The Conference passed many pious resolutions to remedy the deplorable state of affairs, and

Government orders passed thereon; but so far nothing has been done either to train promising pupils in modern critical methods or to preserve the fast-dying Pandit-lore acknowledged to be invaluable on all hands.

Some real progress has been attained in this field notwithstanding the great difficulties in the way, the too-familiar tale of *mamool*. But yet, the number of girls' schools has increased from 12,440 to 16,073, the number of pupils from 645,208 to 952,911. "The most remarkable feature among the increases" being that of Muhammadans, the rise in that community being from 121,699 in 1907 to 213,247 in 1912, a rise of 75.2 per cent. In quality, as in quantity, there has been a growth, for "the increase in English pupils has been substantial and that in the upper vernacular pupils phenomenal. Pupils in the higher stage have risen from 1,208 to 1,812, in the English middle stage from 4,332 to 7,773, and in both together from 5,540 to 9,585. The improvement is specially perceptible in Madras, where, as the report says, "the tendency for girls to remain longer in schools is shown in the fact that higher standards have been opened in several schools. Children of wealthy parents attend mainly on account of the desire to obtain greater knowledge of English which is a valuable asset in view of the prospective bridegroom and poorer girls are attracted by the scholarships offered. Some girls return to school after marriage in order to supplement the meagre knowledge already received and the increasing number of individual cases in which the desire to continue the school life is expressed together with the regret that custom or adverse circumstance prevents the continuance show that the general feeling has advanced in favour of attendance in the higher standards." But notwithstanding this increase of popularity of female education, we must remember that, in the curious phraseology of the quinquennial reports, the *percentage* of literate females *per mille* has risen from 7 to 10, an absurdly small figure from the modern standpoint.

The report further deals with the education of chiefs and nobles (who, in India, are supposed to be unfit to rub shoulders with the average schoolboy, though in England, the Prince of Wales can go to an ordinary college and even serve as a midshipman without detriment to his future usefulness), of Muhammadans, backward classes, defectives, criminal minors, in all of which departments, as in those previously noticed, there is progress all round, but notwithstanding great self-gratulation, the progress is so microscopically small that no perceptible impression seems to have made on the wall of ignorance and illiteracy that blocks the way of progress in India.

The Honourable Mr. J. H. Stone has introduced the beginning of a notable reform in the method of paying grants-in-aid to schools. The method of "results grants," condemned everywhere in the world, was given up some years ago, but the present system of yearly grants is no better. All methods of grants-in-aid in which school pupils are regarded as prize-calves in a cattle show are unworthy of a civilized Government, but the momentum of *mamool* has been dragging on the old system. But our present Director of Public Instruction, under the inspiration of the Government, has broken from precedent and introduced as an experiment, to be tried in Guntur, Bellary, Chingleput and Madura, monthly payments to schools which have been on good behaviour for the past three years. While we cannot understand the principle on which the lucky districts have been chosen, we congratulate Mr. Stone on having initiated a reform which will have far reaching influences for good. Schools may work steadily without the masters being harassed for want of pay for months till the annual dole is made by the officers of the department. We only regret that the experiment has been introduced apparently with trepidation, for very few districts, and those, not remarkable for forwardness have been selected. We cannot conceive any imaginable reason why the department cannot go the whole hog, make up a complete list of efficient and long-standing schools and pay them all monthly

teaching grants independent of temporary fluctuations in strength. A schoolmaster who gets a steady pay can work much better than one who is paid like a head-cooly in proportion to the size of his daily muster.

It is well-known that as a result of pressure from the Department and of generous non-recurring grants, most High Schools of the Madras Presidency are now equipped with facilities for practical work in Science. And as the irony of fate would have it, just when schools have got fully equipped for science work and engaged qualified teachers well-trained to teach the physical sciences according to modern methods, pupils are deserting Science sections in large numbers and taking up the study of History instead. This is because Science Examiners are more exacting than History Examiners, that the marks which a pupil who does conscientiously good work in Science gets are much less than what the average pupil gets in History. Science Examiners have always served as bogey-men in the Madras educational world. No attempt to reform them has succeeded, because the Science syllabuses have paid more regard to 'Theory' than to 'Practice'. Scientific theory is well and good in the University but ought to be banned from all school work. Says a writer in the *School World* for July 1914:—"One of the first reforms necessary is to postpone all theoretical work...to a post-Matriculation course, and to utilize the time so saved for acquiring some insight into the numerous industrial applications of Chemistry...It is highly probable that a course of this kind would attract boys to the Science side of a school and to a scientific career. Boys are as practical, if not more so, than their fathers, and like to see that a subject is useful before it claims much of their earnest attention. The delay in approaching the theoretic aspect of Chemistry would not be at all detrimental to the specialist, but rather beneficial, as the abstract notions of atoms and molecules would appeal to a more mature mind and to a wider knowledge of chemical facts." The Madras School Leaving Certificate Board hold two examinations in Science

—a theoretical and a practical one. The “theoretical” examination is supposed by some to be a test of practical work by means of a written examination and the “practical” examination tests the same by practical work.

We cannot imagine what possible use the former examination can serve, except, as it actually does, to deplete our Science classes of pupils. It is high time the “theoretical” examination were done away with.

ELEMENTARY SECTION, MADRAS TEACHERS' GUILD.

AN ACCOUNT OF ITS ORIGIN AND WORK.

AT a public meeting of the Teachers' Guild held on the 5th November '10, M. R. Ry. A. C. Pranatharthihara Iyer Avl., (since Rao Bahadur and I. S. O.), Inspector of Schools, presided. It was on his suggestion *ex cathedra* that evening that an Elementary section of the Madras Teachers' Guild was brought into being. Previous to this, Mr. A. C. Pranatharthihara Iyer made an attempt by means of private letters and circulars to form a “Committee for the improvement of Elementary teachers in Madras” and to organise a course of popular lectures for them. It was, however, since found to be more practicable to get through the work through the agency of the Guild.

The Elementary section was formally inaugurated at a very largely attended public meeting of the teachers (mostly Elementary) of Madras held on the 6th February 1911 under the distinguished presidency of the Honourable Mr. J. H. Stone, M.A., C.I.E., F.R.H.S., our Director of Public Instruction. Popular lectures in Physics and Chemistry, Botany, Physiology and Zoology have hitherto been delivered at various centres in the city by experts. The lectures were all of them accompanied with practical demonstrations. Lantern lectures were delivered at the end of the Botany and the Physiology lectures and an excursion to the Horticultural Gardens was an additional means adopted to practically illustrate the Botany lectures.

Printed syllabuses of the different courses of lectures have been freely distributed to the teachers who attended them.

It is difficult to state exactly how many teachers have been benefited by the lectures. As a rule, untrained teachers were not ad-

mitted to these lectures nor were supernumerary ones admitted. The number of Elementary teachers in the city may be roughly set down as one thousand. At least a half of this number must have been helped by the lectures. The teaching of subjects like Elementary Science, and Nature Study has been given a stimulus to in the local Elementary schools and the stock of general information of the teachers has been materially amplified. This result may not perhaps be judged very considerable but those who are acquainted with the ordinary Elementary schoolmaster, will at once concede that great credit is due to the expert lecturers for their disinterested work; and an idea may be gained of what work they have done when it is said that among the fifteen gentlemen who lectured there has been a total of nearly 140 lectures.

It is matter for deep satisfaction that both the Madras Corporation and the Department have been pleased to contribute towards the expenses of this great undertaking, whose timely inauguration is due to the intelligent and farsightedness of M.R. Ry. Rao Bahadur A. C. Pranatharthihara Iyer, Inspector of Schools, who has been assisted by Mr. N. Swaminathan, the Honorary Secretary of the Elementary section.

The Elementary section has just purchased a very good optical lantern and sets of slides and we have no doubt that its usefulness in the cause of the improvement of Elementary education will still advance in the future.

We hope to give in these columns from time to time accounts of the doings of this important section of the Madras Teachers' Guild.

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CHRISTINA GEORGINA ROSSETTI.

The Second Great Victorian Poetess.

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(Continued from page 230).

III

SICKNESS, SECOND LOVE SHOCK, LATER LIFE, AND POEMS. (1862—1894).

Had Christina died at 32 instead of at 64, well might we say of her,

“She covered up her eyes lest they should gaze

On vanity, and chose the bitter truth,”

as she says in her sonnet entitled *A Portrait* written in 1850. She was indeed a “servant of servants” and “her own self learned she to forsake.” Had Miss Rossetti died at 32, well might we attribute to herself the words she attributed to Lady Isabella Howard, dead when she was but

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18 years old, in the other sonnet entitled *A Portrait* written in 1847.

“Heaven opens; I leave these and go away;
The Bridegroom calls,—shall the Bride seek to stay?”

It was not to be, however. With a sick head and a faint heart she had another half of the river of life to cross. She might indeed have gone over the other half of the river smoothly and reached the bank. That neither was to be her lot. She was led to feel that the other half was more fierce and deep to pass over than the one half already crossed. Because of this increased obstacle in the second half of her wading through the river of life it is that we feel that when she crosses the bar and reaches the bank, she is seen.

“Sleeping at last in a dreamless sleep locked fast.”

Heaven overarching her* and bowing down her head with friends on earth

“To raise it with the saints in Paradise.”†

Christina Rossetti was a healthy child, but by 15 she grew delicate and sickly. When she was but 18, she suffered from an acute attack of Bronchitis, not a pleasant experience for a tender girl. But it is strange that, unlike human beings in general, instead of loving life and being loath to yield it at an early age giving up beauty, “hope and joy and pleasant ways,” she sings at this very

* *Sleeping at Last, Heaven Overarches*—the last poem of her life.

† *A Portrait* 1847.

period a song which has evoked the admiration of the whole world, the song beginning.

"When I am dead, my dearest,
Sing no sad songs for me ;"

We cannot imagine another girl who could, in similar circumstances, have conceived a poem like *Sound Sleep* or *Looking Forward*. In *Looking Forward* there is a hatred of looking backward and the soul that longs for sleep, asks for peace all around. "From the frying pan into the fire" was in short the history of her maladies. Close on Bronchitis, she had "angina pectoris," which, we read, is one of the most painful and agonising diseases that the human frame can possibly suffer from. The disease, we are told, is attended by a feeling of impending death from suffocation. Now Christina wrote three sonnets, one called *After Death* and the other two *Two Thoughts of Death*. In *The Summer is Ended* (1852) she asks sister sweet not to weep, but hope and smile at her death. *I Have a Message unto Thee* is a very solacing study in sickness, a study based on the lesson taught by the symbols of God's Creation, "from crops of jealous gardens to wildlings of a wood," which tell us of "God's unimagined love." Sickness, therefore, was not a condition of rest for her, but one of incessant thinking. However, towards the year 1861 she rallied, but only for a while. She suffered from cough a few years and then she had another rallying. Between 1861 and 1865 she undertook foreign travels and visited France and Italy.

Christina's partiality for France is clear from her poems on *The German-French Campaign* written in 1870-1871, in the first of which she does vigorously preach human sympathy with no political bias as she says, but in the second, *To-Day for Me* which her brother calls "the greatest of all her poems," she is pleading for France, for fair France, for sister France and for Vine-clad France. Her special favour for France is seen also from her narrative of *Johnny* who, at the sacrifice of his "curls of gold," gives

"Precious money—tea and bread,
Physic, ease, for mother dear,
Better than a golden head."

Her "passionate delight in Italy" is evidenced in *En Route* where she calls Italy the land of love, sister land of Paradise, in *Enrica* written in honour of the unfortunate Italian lady Signora Enrica Barile or Signora Filopanti, where she says that the Italian lady is summer-like beside the English lady who is like snow. English women, says Christina, are all minted in the self-same mould and all-courteous out of self-respect while Italian ladies are less trammelled by lore of school and courteous by nature not by rule; and the poet admires the liberal glow of the southern lady beside the child of the northern. In *Italia, io Ti Saluto* she feels sorry for returning to the North and contrasts the bleak North with the sweet South; and writing to Anne Gilchrist, she says, "Its people is a noble people and its very cattle are of high-born aspect. I am glad of my Italian blood."* Reminiscences of her visit to Italy are found in her *Later-Life* sonnets and in *Time Flies*.

In the year 1862 occurred a very deplorable event, her second love-shock. In this case the lover was a man of letters and a sweet and simple man, but "eminently unpractical in habit of mind" and abstracted and wool-gathering in demeanour.† Unfortunately his weak point was again religion. Charles Bagot Cayley was admired and loved by Christina; but consistently with her principles of religion, she could not marry him. Still she remained his ardent friend and cherished his memory with pleasure all through her life. In *A Sketch* written in 1864, Christina very humorously describes this gentleman, whom she likens to "the blindest bazzard" only with no wings, and calls him "my special mole," a man with men, whose quill is cut to a pen. He is so blind that,

"He sees not what's within his reach
Misreads the part, ignores the whole,"

* Bell, p. 46.

† Poetical Works, p. 484.

and though facts are shown plainly he would say
"Where? What? and turn away."

There were few events that were noteworthy in Christina's life. Her intellectual growth in a way not easily conceivable was the one great event of her life. The tides that now and again disturbed the smoothness of the current were her sickness, the two love-shocks and domestic calamities. Her father died in 1854 and her *Hymn After Gabriel Rossetti* keeps him beloved in our memory. Lizzie, Dante Gabriel's beloved "Guggum" died in 1862, the Siddal familiar to us from her lover's pictures painted profusely from her face.* In 1876 Maria Francesca died, and the spirit of this dear sister is made to speak in Christina's *Valentine* for 1877. In 1882 Dante Gabriel died and was buried in "Burchington Churchyard" on which she has left a sonnet. In 1883 died Michael, the infant son of Mr. W. M. Rossetti, who says that no act of her life pleased her so much as her getting the infant baptised before his death. On this "Holy Innocent gone home" she has left excellent lines of appreciation which at once display the writer's intense Christian sentiment and strong family affection and human sympathy. In 1886 her dear mother died. To her Christina addressed those eleven "very charming compositions" called *Valentines to my Mother*. Of these the one for 1882 is the most charming and it makes her mother an embodied Love, A better sort of Venus, A Wiser Pallas and dear saint of hers. In that for 1883 there is a note of sorrow caused by the deaths of Dante Gabriel and Michael, already referred to. It is further interesting to notice that Christina addresses these, except the first two, "To the Queen of Hearts." Can we say that the poet here had in mind that earlier poem of hers called *The Queen of Hearts* in which she envies Flora for the partiality of the Queen of Hearts to her? In *Brandons Both* Christina thus writes:—

"Truly comfort beyond comfort is stored up
in a mother

* Cf. "Beata Beatrix."

Who bears with all, and hopes through all,
and loves us all."

Writing to Mr. Shields after her mother's death, Christina says, "I am glad it is I and not she that is left sorrowful and lonely."*

Sickly though she was, she remained to see many of her friends and relations off to that region, whither she was long in going, though she was perhaps the first to long for that region. Despite all sadness and suffering, she was ever cheerful and she was wont to say, "cheerfulness I consider a fundamental and essential Christian virtue."† In 1871 she had an attack of Exophthalmic Bronchocele or Dr. Graves's disease. To this was in course of time added cancer, for which she underwent an operation in 1892. Dropsy of the left arm added itself to her maladies in 1893; and all diseases took final leave of her soul on the 29th December 1894, when she died, as Mr. William Rossetti says, "in the act of inarticulate prayer,"‡ and attained that eternal companionship which knows no break in the presence of God§. She was buried in Highgate cemetery, some stanzas of her *Advent* beginning

"The Porter watches at the gate"

and ending

"With Jesus Christ our best,"

and her

"Lord, grant us grace to mount by steps of grace"
sung to her departed soul.

Oh! Poor Christina!

"Though the pain was strong,

Though the struggle long,

It is past:

All thy pangs are at an end.'

"Whilst I weep

Angels sing around thy singing soul."||

* Bell, p. 114.

† Bell, p. 163.

‡ Poetical Works, Memoir.

§ Bishop of Durham's letter to W. M. Rossetti, Bell, p. 179.

|| *Better So*,

Most characteristically on her grave were inscribed her lines

"Give me the lowest place: or if for me
That lowest place too high, make one more
low:
There I may sit and see
My God and love Thee so." *

Referring to this last period of Christina's life, one writer says: "In poverty, in ill-health, in extreme quietness she was now performing her life-work." † Her poverty is reflected in the vein of deep human sympathy that runs through her poems. Her ill-health made her look heavenward for peace of mind. Her love of solitude is seen in her ever-present longing for rest in Heaven. She may, says Amy Sharp rightly, ‡ be placed among those who "learn in suffering what they teach in song." §

Excepting Christina's contributions to various magazines, of which we may specially note "The Athenæum," "The Macmillan's Magazine" and "The Germ," and the volume of "Verses" privately printed in 1847, dedicated to her mother, the public had not any systematic volume from Christina's hands. Such a one was presented to the public in her "Goblin Market and other Poems" published in 1862, with two designs by D. G. Rossetti. "It is a thoroughly original work, fraught with true poetic feeling." §

In this volume, says one writer, "she attained a height which she never reached afterwards." || With the publication of this volume, says another, she "took her place at once among the poets of her age." ¶ The popularity of this volume may be inferred from the fact that before the expiry of three years, a second edition of the volume was

* *The Lowest Place*.

† Encyc. Brit. Vol. 32, p. 298.

‡ Victorian Poets, p. 189.

§ Shelley. "Julian and Maddalo."

§ Lon. Rev. Apr. 12, 1862.

|| Dict. of Nat. Biog. Art. C. G. Rossetti.

¶ Encyc. Brit. Vol. 32, p. 299.

called for. In 1866 appeared "The Prince's Progress and other Poems," with two designs by D. G. Rossetti. It is significant that in this year was printed a volume of her poems at Boston. This shows the wide popularity Christina's poems had attained by this time. In 1881 was published "A Pageant and other Poems" which shows "slackening lyrical power." In *The Key-Note* prefixed to this volume, she says,

"Where are the songs I used to know,
Where are the notes I used to sing?"

yet, as the Robin which sings through Winter's rest, does cheer the unlovely rest of Winter's pause, she too expects to do in her songs of this time as before; and she does cheer us by her later songs as by her earlier ones. One year before she died, yet another volume of "Verses" was published. Posthumously a volume of "New Poems," hitherto unpublished or uncollected, was issued under the editorship of Mr. William Rossetti, whose Preface to the book and notes are very useful. To crown all, a complete edition of all the poetical works of Christina has been recently published also under Mr. William Rossetti's editorship, whose memoir of his sister, though not so long as his memoir of his distinguished brother,* gives us considerable help in understanding the genius of Christina, and whose exhaustive notes at the end are invaluable as containing excellent pieces of impartial and sober criticism scattered among them. The one fact that Christina had so much to give to the world is enough to justify the words of the writer in the *Encyclopælia Britannica*, "all that we really need to know about her, save that she was a great saint, was that she was a great poet."

Maiden Song which relates the story of three merry maidens who were wooed and won, in a brief May-tide, contrasts well with the story of the two sisters in *Goblin Market*. While the latter evokes pity, the former produces in us a light-hearted pleasure. And the moral bearing of *Goblin*

* Vol I, Family Letters,

Market is absent in this poem which is at the most a merry love-story. Margaret's heart is the counterpart of Lizzie's in the *Goblin Market*.

The Prince's Progress which occupies the place of honour in the 1866 volume, "the parable and the teaching" of which, says Mr. Gosse, * "are as clear as noonday," describes the journey of a prince, "strong of limb if of purpose weak," to the abode of the Bride who "spell-bound" watches for him in weeping and dreaming, who, being unfortunately delayed in his progress by three sore trials, arrives too late in the "royal land" and at "the royal palace built all of changing opal stone." Thus he loses the Bride, "meet queen for any kingly king." The author very dexterously metes out punishment to the wayward Prince and very artistically lowers the curtain in the middle of a pathetic scene. Whatever the moral we draw from this fine narrative, this much is noteworthy, that Christina here has pitifully narrated the abrupt close of earthly love, as she has described in *Repining*, the hard lesson of self-renunciation taught to the woman who desired transient love on earth. "The greatness of this noble poem," says Mr. Bell, † "lies in its subtle poetic atmosphere—a poetic atmosphere which is beyond the reach of exact definition, but which enshrines it among the great poems of the century."

Under the Rose or *The Iniquity of the Fathers upon the Children* relates the unfortunate story of an illegitimate child, who feels sorely the sin of her unknown father, who flawed honour like a glass and set his snare to catch at unaware her mother's foolish youth, thus bringing disgrace on her mother and shame on herself, and who relinquishes her self and leads a miserable isolated life, despite all the honour she enjoys by the carefulness of her nurse and by the overkindness of the Lady of the country in which she lives.

* "Critical Kit-Kats," p. 150.

† P. 215.

The Months, a Pageant, after which the volume of 1881 is called, an excellent calendar for lovers of Nature, which equals Spenser's calendar for shepherds in its completeness and congruity, and excels it in sentiment and style, is "as graceful and bewitching as the children for whom it is written."* It is admirable as a pure study of Nature, having no moral lesson imbedded in it. The idea of making the months speak for themselves on an imaginary stage helps us to realise the purpose of God in making Nature the interpreter of the mysteries of our soul. Writing of this exquisite pageant, *The British Quarterly Review* said, "the *Pageant* is full of grace and fancifulness; there is a playful freshness in it; it abounds in delicate pictures, which claim for themselves a place apart in the imagination." It may be noted that the same sentiments as are here expressed are found in *A Year's Windfalls* written in 1863.

A Ballad of Boding is an excellent object lesson, teaching as it does, by the dismal fate of the Love ship and the Worm ship, and by the steering of the lowly third ship, the Lily and Rose ship into the splendours of the sky, having successfully "crossed the bar where whirls and breakers are," the lesson that

"What seems is not always as it seems."

From this poem we may learn that wealth and worldly well-being do not make for the happiness of eternal life, but humility and incessant toiling in this world of "sleeping dreams and waking dreams."

An Old-World Thicket, in which her brother finds some analogy to her earlier poem *From House to Home*, seems to be only a second-rate production compared to that earlier poem. This poem, with its melancholy tone and superficial contrast between the lower regions and the higher, seems in no way comparable to that poem with its ideal conception of Heaven and the magnifi-

* "Athenæum" No. 2811.

cent description of an imagined journey from House to Home.

While *All Thy Works Praise Thee, O Lord* is exceedingly devotional in its conception and expression, it is too ordinary a poem for us to infer from it any amount of imagination on the part of the poet or even much of that ideal conception of Heaven and God, we have noticed in her other poems. Nevertheless we may notice in it Christina's knowledge of the universe and the relation of this vast manifestation of God to that Eternal Essence called God, who is Love, who is Wisdom. Christina's philosophy is contained in the women's praise,

"God makes our service love, and makes our wage

Love: so we wend on patient pilgrimage,
Extolling Him by love from age to age."

The soul that discovers that "Love hath a name of Death,"* feels that

"Underneath all things that be
Lies an unsolved mystery,"†

other than Love. What is this mystery? The question leads to a close examination of Nature in *Seasons, June* and *What's in a Name?*, *Tempus Fugit*, *An October Garden*, ending with *There is a Budding Morrow in Midnight*. The realisation of a certain future is a sufficient solution of the "unsolved mystery," removing the veil that impenetrably spreads over all, and satisfying the soul that finds a death in Love, for this Love in its "nest on earth" only looks to heaven "to be blest."‡ A similar inward detachment of the soul from the externalities of the world and a corresponding growth of the desire to attain to that unknown region of the Invisible Spirit whose Love is exhibited in the whole creation, which for ever combines in praising the glory of the Lord, can be traced through her other poems of this period.

* *Love's Name*.

† *Maiden May*.

‡ *Homewards*.

Humility, the first condition of self-conquest, is the lesson conveyed in *Helen Grey*. In *A Bird's Eye View* and *A Dumb Friend* she shows the transiency of human life. Life is neither good nor sweet. Goodness and sweetness are found in death and in a life elsewhere.* For this the heart pants day after day and yet the day comes not.

"I watch with wistful eye,

I wait and wonder:

When will that day draw nigh—that hour
draw nigh?"†

How the power of life still keeps the soul away from the goal to which it aspires is seen in the unfruitful interviews with the ghost in *The Poor Ghost* and *The Ghost's Petition*. The two pieces *Margery* and *Last Night* show the thorn that is in love. *Beauty is Vain*, for sooner or later Time wins in the race of life. A distinct note of self-reproach is visible in *What would I give?* and in *Hoping against Hope* where she says,

"In this weary world it is so cold, so cold,

While I sit here all alone;

I would not like to wait and to grow old,
But just to be dead and gone."

In *Twice* which gives a very pathetic history of a heart, the heart laid down by love as still unripe is carried to God and placed before Him who is to "refine with fire its gold" and "purge its dross away." Christina's natural liveliness is seen in *A Farm Walk*, *Under Willows, Bird or Beast*. But in all these there is an unhappy chill running. In *Songs in a Cornfield* which Christina calls "one of the most successful pieces in her 'Prince's Progress' volume,"‡ her melancholy is seen; a lively song turns out at the end of it to be melancholy itself, owing to the "listless Marian" who says,

* *Life and Death*.

† *Twilight Night*.

‡ Bell, p. 128.

"If I had wings as hath a dove,
I would not sift the what and why,
I would make haste to find out Love,
If not to find at least to try."

Jessie Cameron which relates the sad end of *Jessie*, a kind-hearted girl, but "somewhat heedless with her tongue" is very pathetic; and in *Grown and Flown* we meet with these lines,

"Sweet sweet love was,
Now bitter bitter grown to me."

The *Eve* poem is a very sympathetic one and shows firstly how while all Nature pitied Eve, the wily serpent alone "grinned an evil grin" and secondly that the repentance of Eve, though finely imagined, is nothing compared to those vigorous lines of Milton which describe Eve, as a penitent sinner standing before Adam and the Angel of God. The response of Nature to Eve's penitence as described by Christina reflects the womanly qualities of the poet, while Milton's description of the event is as stirring as the circumstances and the consequences of the Temptation demanded.

Amor Mundi, "an allegory of how love of the world leads inevitably to destruction,"* shows that the down-hill path is "hell's own track" though it may look easy, while the up-hill path, though hard and steep, is the way to Heaven. This poem is considered by Dante Rossetti to be a reminiscence of "The Demon Lover." "The lesson taught by this poem and *Up-Hill* seems to be the necessity of escaping from the false attractive graces of the world-demon and of keeping our attention steady on the up-hill work of slow but sure attainment of the divine Grace of Heaven, whose ruler is Love itself.

The kindness and humility shown by the high-placed Lady Maggie to "my sailor cousin Phil" is very characteristic of Christina's notion of social position and of the principle that binds one to another. Christina's *Dead Hope* written in 1865 reproduces the sentiment expressed in one of her

* Bell, p. 230.

early poems *Love and Hope*. In *A Daughter of Eve* she says,

"Stripped bare of hope and everything,
No more to laugh, no more to sing,
I sit alone with sorrow."

In *An 'Immured' Sister* Christina finds that life flows down to death even as rivers find the inevitable sea, and expresses her readiness to die and to be at peace among the dead, for,

"Hearts that die, by death renew their youth,
Lightened of this life that doubts and dies;
Silent and contented, while the Truth
Unveiled makes them wise,"

and the closing apostrophe to the soul to mount higher and higher is the very height of her devotion to the Higher Truth. *A Smile and A Sigh* may be considered to be the middle point of Christina's poetical works; "A smile because the nights are short," and some love comes with each morning; "a sigh because the days are long," and the sighing and the time of waiting increase indefinitely. While in *In a Certain Place* love is cold and dead, in *Cannot Sweeten*, love is actually slain with an evil eye and with a hardened heart. The last stanza of the latter poem shows the weariness of love, so well described in the short poem *Of My Life*. In the last stanza of the last *Song* that Christina entered in her seventeen notebooks of poems regularly preserved by her, is also the determination of Christina,

"Let me be, let me be
For my lot is cast:

Land or sea all's one to me,
And sail it slow or fast."

In *Days of Vanity* she clearly says:

"Morrow by morrow
Sorrow breeds sorrow,
For this my song sigheth."

Husband and Wife, *From Metastasio*, *A Bird Song*, *Meeting*, *A Green Cornfield*, *A Bride Song* and *Bird Raptures* are good lyrical poems. In *Confluents* she feels her loneliness and says;

"My soul seeks thee
Far away."

In *Mirrors of Life and Death*, the shadows of the mystery of Life and the mystery of Death talk to the author of multifarious things on earth; The last appearance is that of winter "with nought to show."

In *Yet a Little While* she says,
"I hope indeed; but hope itself is fear
Viewed on the sunny side;"

Fear in religion is essential for spiritual development, but the fear must be combined with hope. Else the solace of religion will be missing. Faith in God, Fear of God, Hope in God and above all Love for God, and Service to Humanity—the essential conditions of spiritual emancipation were all present in Christina. She says in *Parted*,

"And since there is but one
Heaven, not another
Let us not close that door
Against each other."

In *De Profundis* she expresses profound regret for the distance that parts Heaven and Earth yet,
"I strain my heart, I stretch my hands,
And catch at hope."

The sense of pleasure that pervades *Golden Glories* contrasts forcibly with the sense of pain in *Hollow Sounding and Mysterious*.

In *Till To-morrow* there is a general farewell to all the achievements and expectations of earth, which are only "dreams not worth dreaming;" and here she says

"My wish and joy stand over
Until to-morrow; Heaven is glowing
Through cloudy cover;
Beyond all clouds loves me my
Heavenly Lover."

The conclusion of Milly in *Brandons Both* is specially noteworthy.

"Life is filled with troubles and the world
with scorn."

In *Life's Parallels* we are told how "Never" is the note of life on this side of the river, while "Ever" is on the other side of the narrow noiseless river and how we should ever pursue, faint though we may, yet never despairing. In *Golden Silences* we are told that there are two silences, "one the silence of life forlorn," "one the silence of death." The former is well-known and the latter shall be known after death. In *the Willowshade* tells us that this silence of death leads to Love, for it says, "Love only outlives death." In *Fluttered Wings* there is a distinct attempt on the part of the soul to break off; It beats against the bars of grief and the fretted heart tossed to and fro is fain to flee, and fain to rest. In *Mariana* the soul is sighing and trying for Love; In *Memento Mori* pleasure is priced as poor and sorrow is held to be sweet, for it ends to-morrow. *One Foot on Sea and One on Shore* shows the readiness to part and *A Song of Flight* is one step further towards the home which "lies beyond the stars and the sea," and the soul finds "It is time to arise, to race for the promised prize." *Passing and Glassing* gives a good moral lesson to women who in "All things that pass" find as in a glass the passing away of their own bloom and joy.

"All things that pass
Are wisdom's looking glass."

All desire is vanity; Yea, all desire is "vanity of vanities," as we are told in *Sœur Louise de la Misericorde*; For longing and love are pangs of a perished pleasure, a disenkindled fire; memory is a bottomless gulf of mire and love a fount of tears out-running measure.

"Oh Vanity of vanities, desire!"

N. K. VENKATESAN.

(To be continued.)

MEDICAL INSPECTION OF SCHOOLS.

THE ideal of statesmanship will not have attained high water mark until the country enjoys the permanent blessings of "sweetness and light." The element of compulsion, it was shown in the article on Peripatetic Teacher, in any form is not without its evils, accompanying and may provoke friction and resentment, especially in communities which live in a primitive condition. If the village peasant or the urban tradesman is to come forward freely to adopt primary instruction, it is necessary that the benefits which his occupation will derive through enlightenment, have to be demonstrated. Our duties and obligations will not end there. We are as much concerned with the improvements of the peasant's mind as with the development of his body. In fact the robustness of his physique is more important from an economic point of view than even the cultivation of his intellect. "The claims of the future are represented by suffering millions, and the youth of a nation are the trustees of posterity." If we neglect the youth we may well despair of the future. If we 'look after' the youth we may gather hopes of the permanence of the nation. Universal education, therefore, represents only one half of our endeavours to 'look after' the youth of the country and universal medical inspection of our school children must naturally represent the other half.

Lord Macaulay in his characteristic style, compares the merits of Croker's edition of Boswell "with those of a certain leg of mutton on which Dr. Johnson dined, while travelling from Oxford to London." We may not inappropriately summarise the physical

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characteristics of our school children as bad as bad could be. They are ill-fed, ill-clothed, ill-formed and ill-developed. Those who have come in contact with the slums ought to bear testimony to the amount of squalor that disfigures our modern town life. The existence of such unwholesome spots, side by side with centres of light and culture is a social anachronism and is fraught with tremendous consequences. Our penitentiaries, reformatories and asylums are peopled with men and women who hail from these quarters: and though the total extinction of evil from them is perhaps possible only in an ideal state, yet the amelioration of their condition is not beyond the solution of wise statesmanship. The influences of slums can be checked and perhaps nullified, firstly through popular education and secondly through spread of social hygiene. The national physical defects which are proposed to be remedied by a comprehensive system of medical supervision, are not confined to the slum children. They are also shared by children brought up in more opulent circumstances. In fact the trend of modern civilisation has been towards a marked degeneration of national physique, brought on, on the one hand, through injudicious dieting and over indulgence and on the other, through impoverishment and crime. It is perfectly obvious that if our children ought to take their respective places as worthy citizens of the great empire, we have to attend to the well being of their bodies no less than their intellect.

That an enormous number of children are defective and suffer from undetected ailments which assume serious proportions as the age of discretion is reached, is an undisputed fact and does not require to be investigated as a preliminary step to ascertain whether or

not the adoption of medical inspection in our schools is a matter of immediate necessity. We have to recognise, firstly physical deformities arising from the children assuming abnormal positions in the class room owing to bad furniture or want of them, secondly through insufficiency of light and so forth; or they may arise through certain conditions of the nose and throat, rendering the children unfit to receive the general education imparted in the school. The children in a large majority of cases may possess the germs of infectious diseases and if allowed to attend the school undiscovered, with the healthy children we can see easily imagine the extent of damage that the diseased child is capable of doing to the community as a whole. Then there are cases of contagious skin affections and reprehensible habits both of which are the great bugbears of our school life which require proper and timely medical control, as otherwise the disease on the one hand and the vice on the other, will conspire to effectually undermine the constitution of the rising generation. As the ideal of race culture is to breed for efficiency, physical, intellectual and moral, every effort should be made to press for such universal education that it will include medical inspection as an integral and organic part of it. The object of supervision is to improve the physical fitness of the children so as to enable them to assimilate the education that is imparted. The present state of low vitality is serious enough to render it not an educational luxury but an absolute necessity. Medical inspection ought to be able to alter or suggest new methods of pedagogics to be pursued in respect of certain classes of defective children who cannot be treated on the same lines as the healthy ones. The reasonableness of such inspection, lead-

ing to the general improvement of the physical surroundings of their homes, the improved condition in the health and strength of the children, ought to strike even the most unobservant parent.

Once the prejudice against innovation is overcome, appreciation of the reform which is the basis of all moral and intellectual advancement, will not be tardy. An anthropometric survey of this kind ought to furnish data on which depend measures promoting improvement of the nation as a whole. Any measure calculated to decrease the poverty and the sickness of the parents and to increase the efficiency of the children and their earning power ought to have the whole hearted support of every right thinking man.

The subject is not without interest to the practical social philosopher. Our Reformatories, Prisons, Asylums and Hospitals are only curative centres, efforts being made to heal the sores affecting either the mind or the body. We theoretically recognise the truth of the maxim "Prevention is better than cure," but no efforts have till now been made to adopt the preventive methods which besides conferring health, peace and security on the country, would materially diminish the public charge that now goes to maintain these institutions. The authorities ought to recognise the supreme importance of the work of education assisted by medical supervision in early diagnosing any abnormalities in children likely to develop into criminal tendencies or symptoms of disease which if unchecked, would spread and the value to the community in the early treatment of these maladies. A scheme of universal free education coupled with compulsory medical supervision is an enormously expensive one,

and funds have to be obtained partly through the levy of a small educational rate calculated on the principles of the income-tax and partly through private munificence, temple endowments and such other sources. A spirit of willingness to come forward to bear this additional impost is a sure test of the practical patriotism of our leaders who seek to form a United India by the intensive culture of the beauties of our vernacular studies. No doubt for a long time to come the masses have to be reached chiefly through the vernaculars, hence their importance in all schemes of primary instruction; and the formation of an "Indian Nation," on the basis of the cultural development of the several hundreds of languages is a different problem entirely beyond the scope of this paper.

In the previous article it was said that education would become universal without recourse to compulsion provided the doubting parents could be convinced, by the peripatetic teacher or the elementary school-master assisted by the agricultural officers, of the benefits which their occupation will derive through the training of their children even though it may entail a temporary monetary sacrifice. Add to such inducement a genuine desire on the part of the authorities to improve the physical condition of the normal children, offer free medical treatment to the diseased ones, clothe and feed all, in short render them more fit to enter their fathers' occupation with greater powers of endurance and strength. I should regard that primary instruction with the collaboration of the agricultural and medical departments ought to become irresistably attractive to the general mind of the populace. We shall therefore offer a few remarks on the methods of the medical inspection of our schools assuming a general

knowledge on the part of the reader, on the physical conditions of our school-going population.

Pedagogical Anthropology is a new science and promises to take a foremost place among other branches of knowledge. Madame Montessori has done pioneer work in the field and every teacher ought to acquaint himself with the general principles of biometrics; indeed a biographic and biometric record of every child is invaluable to all teachers as suggesting the particular form of education needed in any individual cases. To the present day teacher all boys are a necessary nuisance of 'bubs,' (contraction of, one may suppose, Beelzebub), since he has not had a special course of training in child experimental psychology and school hygiene, an elementary knowledge of which ought to enable him to know the *good* boy from the *bad*. "The bad child should be sent at once to the school physician because it is almost certain that he is a sick child and all anomalies of character have their basis in his morphological variations." It should be remembered however, that the treatment of any such abnormalities is not medical but principally pedagogical. Curative pedagogy therefore ought to abolish punishment in the school room. If careful biometric charts are maintained in all schools, the teachers ought to be able to determine in every case, "those individual variations in physical and psychological condition which contribute to the development of intelligence and the manifestation of sentiments which play an active part in practical life." The biographic chart will give the teacher and the doctor an insight into varied aspects of the children's families,—economic, social, and moral; and they can easily collect data which they will need in

formulating any reformed methods of pedagogics. "It would be as idle to expect to cure the body politic until the roots of the social evils have been probed to the utmost as it would be to expect to cure a patient by a random selection of nostrums without first employing the ordinary methods of diagnosis." The value of biographic and biometric charts in schools is nothing less than a reform of the pedagogic science as a whole on which other sciences like Sociology Psychiatry, Medicine, Jurisprudence and Criminalology ought to lay new foundations. The result of such suggestions ought to bring us nearer the dawn of that biological liberty,—the very essence of the newest pedagogy (the Montessori method),—which will prepare each pupil to follow with due correctness that form of employment best suited to his individual temperament and tendencies.

Such is the importance of medical supervision of schools, and all the western countries have adopted it as an indispensable adjunct of education. In order that medical inspection may be carried on with any measure of efficiency, it is certainly necessary that all our Elementary and Secondary schools should be converted into Boarding schools. In the day schools children and boys remain only for about 6 hours in the school premises and spend the rest of the day and all their short holidays in the midst of the insanitary surroundings of their houses. The Public Health Office and the Municipal Corporation have to popularise the principles of social hygiene in all the crowded parts of our towns as a preliminary step to place elementary education on a sounder basis, as otherwise the efforts of the school-master and the school physician are rendered nugatory if the children are allowed to go back to

their verminous homes after spending some-time in the wholesome atmosphere of the school. The chief difficulties in the way of instituting Boarding schools in India relate to caste differences and the merely sentimental portion of them must give way to the reform movement. The second requisite in the interest of the popular education is that the present schools which are sandwiched between two insanitary buildings, should be at once removed to more healthy quarters or the adjoining houses should be acquired so as to secure more play-ground, and space for school garden and open-air classes. The third point is that a large body of specially trained educationists and medical officers is required, and the inspection of schools should not be allowed to prejudice the private practice which the physicians may enjoy. Education is at once an art and a science and like any other technical branch of human activity demands skilled labour, and in proportion as we recognise the fact that efficient education is the ultimate basis of national greatness and prosperity, we realise the seriousness of placing the best intellects of the country at the disposal of the Profession.

We shall now proceed to offer a few remarks on the *modus operandi* of the whole subject, having regard to the peculiar circumstances of our schools. The most outstanding question that confronts one at the very threshold of the subject is whether a full time officer or a half-timer would be required for the duties of Inspection. Till we gain more experience or until our organisation has grown complex, the services of part time men ought to suffice. It has been made clear in the foregoing paragraph that it is absolutely essential that the school Medical Doctor ought to work in unison with the public Health

Officer in order that the provisions of the scheme may be carried on on effective and efficient lines. It will be found necessary that the inspection should be held at school hours in the school premises without at the same time unduly interfering with the school work. If the Inspecting officer exercises a little tact and sympathy he ought to be able to get much valuable information concerning the physical conditions of the boys. This and his own measurements with the anthropometrical instruments such as Spirometer, Dynamometer, Bertillon's Head Compass and Stethometer would constitute invaluable data for the biometric chart of the child. The parent's attendance at the inspection should be insisted on, firstly, because prejudice on their part against anthropometric measurements is disarmed, secondly because they can give every information about the family history, which would form the data for the biographic chart of the child. There should be at least three inspections in the course of the school life of a child attending the primary classes,—three more in the secondary and not less than two in the collegiate classes, special and emergent supervisions excepted. Every child before admission to the school should be examined and a careful record of the following facts should be made:

- (1) Previous diseases, if any, of the child.
- (2) General physical conditions, such as height, weight, chest measurements, general nutrition, tidiness, clothing, etc.
- (3) Condition of nose, eyes, ears, throat and mouth.
- (4) Mental powers.
- (5) Any morphological peculiarities and abnormal tendencies.
- (6) Present diseases: (a) contagious (b) infectious, and (c) organic.

The chief officer under whom the part time medical staff will work, would of course be whole time; the young people who freshly enter the service and before they have built up any large local practice, may find time hanging heavy and they can be employed at a suitable remuneration to conduct the school inspection-work. Further, if they are to be taken on in rotation, practically the whole force will have passed through school work and the medical profession in general will gain immense knowledge of the needs and possibilities of the children in a manner which is at present neglected in the training of the medical officers. The obvious advantage of a scheme of this kind is that it is cheap and effective while it reacts in its good effects on the profession.

We shall assume for purposes of this paper that all our schools have been fashioned after the model of Western Boarding Schools and are managed by the School Boards spoken of in the previous article. The medical staff of each district must consist of a whole time chief officer on a suitable salary, assisted by a number of subordinate officers (part time men) and nurses, the number of them being proportionate to the area to be covered by the medical inspection. On an average one medical inspector and five nurses can take charge of a thousand pupils, without letting the work being done in a slipshod style. Every modern school, whatever may be its grade, must have residential quarters for the teachers and pupils, a sick ward with half a dozen beds for every two hundred scholars, nurses' rooms, laundry and arrangements for daily bath, play ground, open air and indoor gymnasia are indispensable adjuncts without which no school should become entitled to any kind of grant from the department. The

attendance of children in our schools will nearly treble itself if these conveniences are offered to them; want of food, distance and sickness, are mainly responsible for non-attendance.

The duties of the medical inspector ought to include advice to the Board in regard to site of school building, plan, ventilation and lighting and the kind of furniture, and periodically supervise the general cleanliness of the school and Boarding houses, arrange for periodical disinfection with a view to prevention of diseases, visit the school lavatory and other sanitary installations, and report immediately to the Head Master, or if need be, the management on any insanitary conditions discovered. On receiving intimation of any outbreak of infectious diseases in any part of the town, he shall immediately inform the school authorities of the necessity of not allowing the children to visit such parts; or if any should appear in the boarding house he should take immediate steps to segregate the sick child. He ought to examine all scholars on admission and shall maintain such books and records as may be necessary to give a full account of the pupils' history. His morning duties will comprise medical examination of such students as may be referred by the nurse or the Head Master, advise treatment or undertake it in cases without prejudice to the interests of the family doctor; supervise the physical exercises of the children occasionally, instruct the teachers in the principles of ambulance and the practice of first aid in cases of school accidents, may lecture to them by means of demonstrations or otherwise on the methods of recognising the common ailments, the psychological principles that underlie

physical training and the dangers of inflicting corporal punishments indiscriminately.

The duties of the school nurse will be equally multifarious. She will inspect the laundry, attend the daily bath of the children, their clothing, food and so forth. She will assist the Inspector in medical work and attend the sick room. If the scheme of compulsory education were introduced, it becomes clear that it is not only our duty to provide a healthy and decently comfortable environment to the child in the shape of a sanitary school, but also to assure the parent that their children are not educated to their hurt. If compulsory attendance is insisted upon we have to provide ambulance carriages to carry delicate children over long distances to their schools, if they don't happen to be in the vicinity of their houses. If all this is done, there is still the question "what is the benefit of all this?" to be answered. The first gain is to collect statistics of educational and medical value. If sick children who are always bad children should, by proper medical examination and education, be reclaimed to society, they constitute an accession to good citizenship. Though medical supervision need not necessarily mean medical treatment it will help the campaign against the spread of infectious diseases, the absolute removal of which is the basis of national eugenics.

This brief summary is not intended to be a comment on our existing state of affairs, but it is rather a plea for the adoption in India of well-considered schemes in the European schools from which they have derived great benefit. Even in the Western countries the medical inspection of schools is in an incipient stage, but if the same rate of progress be maintained we should probably

see the absolute banishment of certain ailments, now common among children. In India medical supervision of schools is perhaps of prime necessity if the rising generation should be raised to a higher plane of physical development and the parents themselves enlightened to such an extent as to regard it as an essential part of their children's education.

C. R. NARAYAN RAO.

THE FAILURE OF THE SYSTEM OF SECONDARY SCHOOL-LEAVING CERTIFICATES.

THE title of this paper is likely to surprise many. For the system of Secondary School-Leaving Certificates was ushered in amid a chorus of approval and applause, as the panacea for all the ills which student flesh at High Schools in this Presidency was suffering from. But it cannot be denied that the system is still on its trial. And I hope to show in the sequel, that the system has not so far given a good account of itself.

Let us examine dispassionately the advantages which are claimed for this new system. But one caution. The new system must stand or fall only on the test—what are the distinct advantages which the new system has brought with it but which could not have been introduced in the old system? For if certain undoubted advantages could have been secured by a re-modelling of the old system and the new system only secures these and some more dubious advantages, it is clear that the new system is unnecessary and undesirable.

It is claimed for the new system that it has lightened the curriculum of studies at school. Of course, the first answer to this is whether his advantage, granting that it is one, cannot

have been secured with the retention of the old system. Apart from that, the complaint against the old system was never that the curriculum was a heavy one. On the other hand, educationists all over the world are agreed that, while at school, a boy ought to learn in a very broad sense, something of everything. A boy had to study English, a vernacular or Classical language, Mathematics, Elementary Science, and the History of India and of England and some Geography for the Matriculation examination. And surely none can complain that any subject here is superfluous. And, under the 'School-Final' system, as we may agree to call this system, a boy has to study very nearly the same subjects, only under different groups. He studies English, a vernacular language, and Mathematics in Group A, Indian History and Geography in Group B, and he has to specialise in two subjects in the all-comprehensive Group C. Thus we see that the advantage of having lightened the curriculum which is claimed for the new system is a highly doubtful one, in more senses than one.

Again, it is claimed for the School-Final system that it encourages specialisation. It is said that any system of education must try to adapt itself, as far as possible, to the individual requirements of students, so as to develop the latent capabilities in each of them. No doubt this is true, but it is only a partial truth. For, any liberal system of education must equip the students with some amount of general culture. And, while at school, students must be introduced to the study of various subjects, so that they may discover themselves. And, after all, this claim for specialisation is not so absolute. For students have to study a large number of subjects in Groups A and B, besides the ones they specialise in, in Group

C. Thus it comes about that the new system has the disadvantages of a specialisation, without any of its advantages.

It is also claimed for the new system that, under it, more importance is attached to the work of the student, throughout his years at school, than to his work at periodical examinations. A cynic may easily retort and say that a system of daily examinations has been substituted for that of periodical examinations. For every student has his work weighed almost every day and marks assigned to it and entered in the ponderous volume which is the record of each student. And thus the nervous tension of the student is kept up throughout the year, instead of being confined, as it ought to be, to the periods of examinations.

Again, why are examinations looked down upon as visitations? After all, they form the nearest approach to a perfect system of testing the capabilities of students. And provided they are conducted in the proper spirit and by the right sort of men, there is no reason why examinations may not continue to occupy an honourable place in any well-planned system of education.

But the genesis of these ill-merited strictness on examinations is not far to seek. Owing to various causes, into which it is not necessary or desirable to enter now, the Matriculation examination earned the unenviable reputation of being intended to help the candidates to fail in it, rather than to test their fitness for entering on a University course. And our doctors began to treat the symptoms and lo, one fine morning the Matriculation examination disappeared, and the School-Final system took its place. But, as will be shown later

on in this paper, examinations are still with us.

Another merit which is claimed for the new system is that it does not create any arbitrary distinction between those who pass and those who fail in a particular examination. Under this system, every student who has gone through the course gets a certificate which is a record of his work at school and in the examination. And it is open to him to make use of his certificate, so far as it goes. And if he be anxious to secure some private employment, he may be able to get it, if his employer is willing to take into account his marks in certain subjects only, though he may not have "passed the examination." But these cases are necessarily rare and, as will be shown in the sequel, to most students, there is still the difficulty of having to "pass the examination."

Again, the new system is claimed to be an improvement on the old, because the curriculum is a very elastic one and gives a wide option of subjects in what is called Group C. Under the old Matriculation system, a student had to study English, a vernacular or classical language, Mathematics, Indian History, English History, Geography and Elementary Science. Under the new system also, a student studies English, a vernacular language, Elementary Mathematics in Group A, Indian History, Geography and Elementary Science in Group B, and two other subjects in Group C. Thus it will be seen that the new system is not intended to be very much lighter than the older, although this result is secured by the almost systematic neglect of Group B. And the wide option which is given in Group C is very much narrowed down in practice.

Finally it is claimed for the School-Final system that, under it, the Principals of Colleges are given a wide discretion in the matter of admitting students who held these certificates to college classes. This claim admits of a two-fold answer. For one thing, this so-called discretion of the Principals is by no means unfettered. The Syndicate has been issuing circular after circular, and the climax was very nearly reached when the Syndicate proposed at the last meeting of the Senate that Principals of certain colleges only should be entrusted with this discretion unconditionally. This proposition has been referred to a Committee and it is too early to predict what will happen. But this proposition shows that the Syndicate and a large number of the Senate are not satisfied with the way in which this discretion has been exercised. And ere long, this discretion may be fettered. As will be shown in the sequel, this 'discretion' is by no means a healthy factor in the educational system of this Presidency.

Having discussed the so-called advantages of the School-Final system, I now proceed to point out what, in my opinion, are the distinct disadvantages of the system.

The curriculum has been arranged under the new system, without any reference to the importance of the subjects. And thus it happens that very important subjects are not taught at all or are taught very indifferently. For example, the History of India is made to rub shoulders with drawing and gymnastics in the ill-fated Group B. And it has already been pointed out that, owing to the fact that the subjects included in this group are not examined in at the public examination, they are woefully neglected by the teachers and the taught. The same is the case with other equally important subjects like Elementary

Science and Geography. And this phenomenon is regrettable, especially in the case of Geography of which so much fuss was made recently by the University.

As allied to this, there is the evil of too early specialisation. A boy, when he goes to the Fourth Form, has to choose what subject he is to specialise in. Of course, he is too young and too inexperienced to make any rational choice for himself. The consequence is that in most cases his teachers make the choice for him. And they too have not any very ample materials to go by. They have not had any extensive opportunities of judging of the boys' aptitudes. And even if they had such opportunities, they would not be able to help the boy to choose aright; for a boy of 12 or 13, which is the average age of boys in the Fourth Form, can scarcely be said, except, of course, in very exceptional cases, to have displayed any very marked aptitudes for any subjects. And hence it happens in most cases that the choice of subjects is made in a haphazard fashion. Thus the *raison-d'être* of specialisation is knocked on the head.

But the mischief does not stop here. As has been pointed out already in this paper a certain amount of general culture must be the desideratum of any system of liberal education. But, under this School-Final system, students are denied this vivifying general culture.

This craze for specialisation has affected, not only the curriculum for the School-Final examination but also that for the University examinations. And, as I pointed out in a paper contributed elsewhere "we shall soon have graduates of the University holding the highest distinctions it can offer, not knowing where Delhi, the capital of India is, or what part it

played in the history of India, gravely doubting whether Harshavardhana is the name of a king or of a province, whether Aurangzeb reigned before or after Akbar, whether Clive was an English or a French general, or why the Great Proclamation of 1858, if ever they hear about it, is called Magna Carta, and not by a more elegant name. Nor will they know even such elementary facts as what water is composed of, or what the difference between a mechanical mixture and a chemical compound is. They will never know the causes of lightning and thunder and perforce attribute them to the wrath of the gods and they will seriously doubt whether the earth solid as it is, moves round its axle and round the sun. They will also not know where the liver is, whether in the head or in the abdomen, whether there are two lungs and if so where they are. And if you talk of intestines, they will be absolutely at sea. I do not deny that they may know some of these facts; but, if they do, they will not owe it to the training which they receive at school or at college."

Another advantage which, as we have already seen, is claimed for the new system is its elasticity—that the progress of students is judged by their work throughout the years at school and not by their performances at any particular examination. But in actual practice, importance is attached only to success in the public examination. The pupils who undergo the School-Final course may be divided into three classes—those who wish to enter public or private service, those who wish to prosecute some technical line of study and those who wish to enter on the University course. It is not possible to say anything very definite of the first two classes of students. For the weight which their employers attach to the certificates of the first class of pupil is a

variable quantity. The same is true to a greater or less extent of the pupils of the second class. For their being admitted to any particular course depends on how the students have done at school in the subjects which form the curricula of such courses or allied subjects. But we can talk more definitely of the third class of pupils, with whom only we are directly concerned in this paper. In their case, the Syndicate are issuing instructions to Principals of Colleges which have gradually approximated the School-Final system, in the matter of attaching importance to the marks at the public examinations, to the old Matriculation system, in all particulars except the name. For they demand a certain percentage in English, Elementary Mathematics and two of the optional subjects. And, in practice, this percentage refers only to the marks obtained at the public examination. Thus we see that, in the case of by far the largest number of the pupils undergoing the School-Final course, the rigours of an examination are not mitigated to any appreciable extent.

On the other hand, we have a perpetual round of marking at schools which is bound to have a deleterious effect on the success of the system. Marking the answer papers of boys and thereby judging their capacity is at best a clumsy expedient which has managed to survive for want of a better. And to enlarge its scope by making it a characteristic of the daily work at school, is not in the interests of true education. Again, I understand that Inspectors very often interfere with the discretion of teachers in this marking. If it be so, it is bound to place the teachers often in a false position. I am also informed that some teachers allow other things than the merit of the boys to influence them

in judging of their work. I am not in a position to confirm or deny this statement. But I make it, to point out a source of possible danger.

Granting, for a moment, that teachers all over the Presidency conscientiously discharge their duties in this difficult and delicate task of marking, it remains to be considered whether the differences in the standards of marking at various schools are not likely to introduce an element of confusion in the whole system. Incidentally, I should like to mention how much this perpetual marking has added to the work of the already overworked teacher. With the best of intentions in the world, it is possible for people to differ in the standards of marking, and how are Principals of Colleges to judge of these marks? On the one hand, this system puts in an advantageous position pupils belonging to schools in which the standard of marking is lower, while, on the other, it handicaps perhaps more deserving pupils who have the misfortune to belong to schools where the standard is higher. At any rate, it will be conceded that this system depends for its smooth working on a pretty uniform standard being set up in all the schools in the Presidency—a feature which is bound to be conspicuous by its absence in this system. For, the moment you introduce this uniform standard, the system is deprived of its feature of elasticity which is claimed to be its most conspicuous merit.

In the curriculum itself, the subjects are so arranged as not to ensure the kind of education being given at school that a boy ought to receive there. I have already referred to the early specialisation in the system and its consequent evils. I should like to refer here to the very wide option given of subjects in Group C. The result of it is that a boy may

neglect to study subjects like History, Science, or Mathematics and may specialise in what may be termed non-literary subjects. This is not as it should be. At any rate in the case of those who wish to enter on the University Arts course, the curriculum at school ought to be distinctly literary.

Finally, I would refer to the demoralising influence on students, of different colleges setting up different standards for admission to the University course. I cannot describe this better than by referring to the practice which is fairly universal among boys, especially those belonging to schools which have no College classes attached to them, of sending copies of their marks at the public examination to more than one College, in the hope that one at least of the Colleges will admit them to the College classes. And, often, it happens that students whose applications for admission are rejected by more than one college are admitted into some other college. Granting that this is due to a difference in the standard of selection, still this cannot but have a bad effect on students. But the situation becomes much worse when we find that students from High Schools complain that they are not treated as well as those belonging to Colleges having a High School Department. And, as a matter of fact, the Syndicate have more or less said that Principals of certain Colleges have not conformed to any standard at all, in spite of repeated circulars. And I have heard from more than one Principal of a College that there are many students in the Intermediate classes who do not deserve to be there at all.

It has even been contended in the Senate and outside that there is no great harm done if such students get admitted, for, at best, they only spend two years at a College and,

in any case, will be weeded out by the results of the Intermediate examination. This is a fallacious argument. For the privilege of entering on a University Course is one which is highly prized all over the world. And it ought not to be lightly cheapened. Again the unfit students are likely to act as drags on the fit ones in the College classes. Universities usually keep in their hands the privilege of admitting students to enter on the University course. And it is by no means an edifying spectacle to see our University, having in a thoughtless moment forfeited this valuable privilege to the Education Department, and now trying to regain it by any expedient which suggests itself to them, however clumsy it may be.

Having now pointed out the defects of the system, I now proceed to state, what I consider to be the remedies for the evils. For one thing, the curriculum must be rearranged, so as to give a more eligible position to important subjects, like the vernacular languages of the country, Indian History, Geography and Elementary Science. Into the details of this scheme, I am not at present prepared to enter. But I may say that an approximation to the curriculum for the Matriculation examination as it stands is likely to be the best solution of the difficulty. Only one change need be made therein and that is to give an option to students to specialise in certain specified subjects.

Again, this elaborate marking must be put an end to. Or if it is to survive, it must do so only to save the purpose which it served under the old order of things, viz., to save as a corrective, if necessary, to the results of the annual examinations at the school for promotion to higher classes and a stimulus to the boys to do their daily work well. Beyond

these, this daily marking must not be allowed, to have any determining influence. But I am willing that the teachers may record their general impressions of the boys so that they may act as incentives or as warnings to the pupils.

I have already referred to the three classes of pupils who undergo the School-Final course. A sharp distinction ought to be drawn at school between those who wish to enter on a University course and those who do not. In the case of the latter, the present School-Final system may be allowed to continue with certain modifications.

But, in the case of the former, an examination ought to be conducted by the University. In effect, the old Matriculation examination ought to be revived, but with its rigour relaxed. The Moderation Board ought also to be revived, so as to secure that the examination is a genuine test of a candidate's abilities. To meet extreme cases, I am agreeable to heads of schools sending along with the application forms of the candidates a brief record of the boy's work at school in general words. And an examination may be conducted by schools to select candidates to be sent up for the University examination and therein the school marks may enter more largely. But the University examination ought to be generally independent of the school marks. The Moderation Board may, however, have access to the brief records of pupils at schools referred to above, for the purpose of redressing cases of extreme hardships.

But, in order that this examination may not degenerate into the once notorious examination that it was, the examination ought to be conducted by a Board which is thoroughly representative of Headmasters of Schools and

Principals of Colleges. This is to secure that the examination is only on the work which is actually done at schools and not on work, which, in the opinion of individual examiners, ought to be done at schools. If, with these necessary modifications, the Matriculation examination is restored, and the examiners be generally chosen from those who are actually engaged in teaching boys, and the system is worked in a broad and liberal spirit, a state of things will have been established which will restore the prestige of the University and the Colleges affiliated to it and bring about that elasticity in the school system which was so conspicuous by its absence in the old Matriculation system.

Such, in brief, is my remedy. I do not claim perfection for it. But it seems to me to be the best possible solution under the circumstances. It is to be hoped that the Committee which the Senate appointed at its last meeting to go into this question will evolve a satisfactory system. After all, the main thing to be borne in mind is that examinations are but incidents in a student's career which must be devoted to the acquisition of useful and inspiring knowledge. It is to be hoped that the advocates of the School-Final system will not resort to the jejune argument that it has not been on its trial sufficiently long. If a system is obviously defective, the sooner it is put an end to, the better. And one may assure the Senate in advance that if the School-Final system is buried—and, I have no doubt it will be, ere long—it will be buried, “unwept, unhonoured, and unsung,” except by some pupils who manage to get admitted into the College classes but who have no business to be there.

S. SATYAMURTI.

THE TEACHING OF RECITATION.

THE benefit and the importance of including recitation in school-work cannot be overestimated. It is absurd and as preposterous as absurd to suppose that recitation is *at best* a feat of memory and a word for word reproduction by mouth of some piece of poetry found among a riff-raff collection. Recitation, rightly understood and rightly exercised, has in it more virtues than what a critical study of a critical work can pretend to give. It improves and strengthens the imagination; trains the ear to appreciate varieties of sound and varieties of rhythm; is an incentive to thoughtful and expressive reading; and, making us familiar with some of the finest poems in literature, helps composition to a large extent; for the pieces chosen for recitation enlarge the vocabulary, provide us with general intelligence, and are worthy models for imitation and quotation. Recitation is eloquence and, as it falls on the ear, it ‘charms the soul.’ The moral influence it breathes does greater good and leaves a more permanent mark than many an abstract lesson on right-doing and good conduct.

Probably most of us find ourselves at sea when we come to the selection of pieces that would suit the requirements—the age and the capacity—of our scholars, while it is this selection materially affects the end and aim in view of the teaching of any recitation. It cannot be too much emphasised that the passages should be worth remembering and fairly within the limits of the pupil's understanding and that there should be a *step by step* increase in difficulty as the classes get higher. Nor does it need pointing out that the selections should be various and varied, afford plenty of interest, and render History,

Geography, Prose, Composition and Recitation mutually helpful. The English Literature and our Vernacular Literature abound in such pieces, and, if the spirit is understood, they will be quite useful additions to the boy's stock of knowledge, frequently a prompting source of pleasure to him—provided the proper method of teaching is kept up, and expression doesn't become a name.

"Get it all up by heart and then you can look to the expression" is a very bad principle to be followed in the teaching of recitation. Expression savours of unnaturalness and artificiality when we try to adapt it to what has been memorised. Verily, memorising and expression should, so to speak, go hand in hand, for it will be found that expression, instead of marring, helps memorising; and it is as true that, while boys try to keep the proper mode of expression, they lose the proper words, phrases, sometimes even the pieces themselves! It is absolutely necessary that the teacher should at first give a pattern reading; and when he gets the boys to recite, great attention should be devoted to their pro- and e-nunciation. Again expression is possible only when the true spirit is known, and it is essential that boys understand what they repeat, that they may repeat it well. Slowness and distinctness must be prominent and pre-eminent features of any recitation. Though much drill there should be in securing correct pronunciation and utterance, correct emphasis and expression, there should be the least of it in an analysis of grammar and parsing, as it tends to render the lesson dull and dry. Also it is necessary, highly desirable if not necessary, that the same piece is not run over for many weeks after it has been once fully dealt with, and that the

boys are saved a sense of disgust and a smell of staleness about it.

Coming now to the last and by no means the least part that should be seriously attended to in the teaching of recitation, viz., expression, it will not be, I hope, out of place, to point out here, that the very vital principle is lost when boys fall into that sort of sing-song tone, the unhappy characteristic of many a recitation class, where, to all appearances, there is a necessity, a paramount necessity! for drums and sticks. That such a mournful voice should be reserved for recitation alone seems astonishing and none the less pitiable. In such a case, the master in charge should bring the boy to a stop and converse with him; and as he speaks must he be told to recite. For this and for other obvious purposes, recitation of conversational topics as *The chameleon*, *The clock and the dial*, and for higher classes *Dramatic Declamations*, pathetic subjects as *Bernardo*, the *Spanish champion*, *The Arab's Farewell to his steed* and *Casabianca*, and patriotic poems as *The Charge of the Light Brigade* and *Horatius*, should be found highly useful. A religious adherence to line by line repetition, minute differentiation of pauses, the mistakes of omission and commission, unnecessary emphasis and a stretched cadence—all these may however be given up.

One thing more: many prose pieces there are that may with equal advantage be recited as poetry. For instance, what do my brethren think of the following melodious prose piece from William Hazlitt:

"It (The Letter Bell) strikes upon the ear, it vibrates to the brain, it wakes me from the dream of time, it flings me back upon my first entrance into life, the period of

my first coming up to town, when all around was strange, uncertain, adverse, a hubbub of confused noises, a chaos of shifting objects—and when this sound alone, startling me with the recollection of a letter I had to send to the friends I had lately left, brought me as it were to myself, made me feel that I had links still connecting me with the universe, and gave me hope and patience to persevere. At that loud-tinkling interrupted sound, the long line of blue hills near the place where I was brought up waves in the horizon, a golden sunset hovers over them, the dwarf oaks rustle their red leaves in the evening breeze, and the road from Wem to Shrewsbury, by which I first set out on my journey through life, stares me in the face as plain, but from time and change, not less visionary and mysterious than the pictures in the *Pilgrim's Progress*."

T. S. RAJAGOPALAN.

MEDICAL INSPECTION OF PARSI SCHOOL CHILDREN.*

THE CENTURY OF THE CHILD.

Ours is pre-eminently the century of the child as of the woman—the suffragette as well the milder non-suffragette with whom we are at present not concerned. The problems of child life and labour and of the rights of children are now deservedly receiving an amount of public attention and consideration such as never in the long and chequered history of humanity have they received before. Indeed, one of the tests of

modern civilization is the extent of provision made by every civilized community for the protection, care and welfare of the rising generations—our priceless assets of the present and our hope of the future. It is now generally recognised that it is the paramount and sacred duty of every civilised community and country to conserve and develop these assets—and as a consequence the protection, care and welfare of children from the antenatal right up to the adolescent period, has been organised on a scientific and national basis in all progressive countries. The living foundations of a family as of a nation are made up of its vital units—its children, hence the way to strengthen these foundations, is to raise their health and vigour and their nurture and culture to the highest degree attainable by the inherited capacity of every individual child. So, every civilised state has prescribed a national minimum standard of child nurture and culture, and by means of legislation and popular enlightenment, has secured popular co-operation in maintaining this standard of civilised decency, meting out heavy punishments legal and social to the defaulters. The very existence of such a minimum standard, under which no child of any civilised nation is allowed to fall is a test and an index of true civilisation. Without such a minimum standard what is there to distinguish between a community of civilised people on the one hand and of barbarians or brutes on the other. Hence the adoption of such a communal minimum standard of child nurture and culture ought to be fixed by our leaders, so that no Parsi child shall ever under any circumstances be allowed to fall below that standard. What is this minimum standard of child nurture and culture? It prescribes the provision of free and compulsory education sufficient to fit every child to earn its own livelihood in after life, free food for the starving, clothes for the naked, medical aid and recreation for the suffering and sick, shelter for the homeless, employment for those old enough to engage in it, in short, the civilised child up to the age of

* A lecture delivered by Dr. Kaikhosru K. Dadachanji, Medical Secretary to the Zoroastrian Conference, at a meeting of the Bombay Medical Union.

16 or 18 is fostered by the State through its educational authorities thus meeting all the dreaded contingencies of life to which all mankind—adult or children are exposed, for as we know, most children are "Born to trouble as the sparks fly up-ward."

As a result all civilised countries have adopted the following measures for the welfare of school children:—medical inspection, supervision and treatment for which school clinics have been established on a large scale; free feeding of necessitous school-children; the provision of physical training, of "Open-air Schools," of sanitation of school premises, etc., i.e., all measures included in the general term—School Hygiene. It would take up too much time to deal with the question of School Hygiene in detail here, hence I wish to draw your kind attention to my paper on "Parsi Education and Parsi Health," read before the Third Zoroastrian Conference which deals with the problem in its varied aspects; whilst in the following statement is set out the practical scheme of organising a Parsi School Clinic for the benefit of our children. As you are aware, in accordance with a resolution of the Third Zoroastrian Conference, its Standing Committee has appointed a special school medical inspection committee consisting of the leading Parsi educationists, principals of schools or their delegates, and medical men. To this committee I submitted a practical scheme of medical inspection, supervision and treatment of our school-children. The scheme was discussed, approved of and adopted by the Committee and I was selected as its Medical Secretary to put it into working order. I am very glad to state that a number of our philanthropic Parsi doctors—ladies as well as gentlemen—very cordially co-operated in carrying out the scheme and as a result of their self-sacrificing labours we have been enabled to examine nearly a quarter of the whole Parsi school population. I take this opportunity of thanking these ladies and gentlemen for their disinterested work, which is highly appreciated by the press and the public.

MEDICAL INSPECTION OF PARSI SCHOOL-CHILDREN UNDER THE AUSPICES OF THE ZOROASTRIAN CONFERENCE.

It is conducted according to the following plan:—

A week before the inspection our office informs the headmaster of the date on which the pupils are to be examined and requests them to prepare lists of all Parsi children attending their schools, and to forward to the parents of the children, a notice explaining the practice and purpose of medical inspection, and a circular for describing the family and the previous history of the children, to be filled in by either the parents themselves or their family physicians. The circulars are returnable to this office within four days. Two days previous to the actual inspection a card is sent to the parents inviting them to be present at the time of inspection, noted on the card.

The inspection is held on the school premises, during school hours, in the presence of one or more class teachers as well as the parents of the children who may have attended for the occasion. Each child is then successively examined by an Eye, an Ear, Throat and Nose Specialist, a Dentist, and a General Examiner, to whose lot falls the examination of all the systems left over by the specialists. The results of these separate examinations are inserted on four different sets of forms issued by this office. If there are any cases requiring further investigation they are referred to the Consultants and any special cases of urinary or skin diseases are referred to the Urologist and the Dermatologist. Each child is thus thoroughly examined by four or more fully qualified doctors. In every school—male and female—all Parsi pupils from the infant to the highest classes have thus the benefit of thorough medical inspection.

The results of such medical inspection are communicated to parents of the school-children on advice cards.

RESULTS OF THE MEDICAL INSPECTION OF THE PARSI PUPILS OF 12 SCHOOLS OF BOMBAY.

No. of pupils examined	...	...	1946
No. of advice cards sent to parents	...	...	1710
No. of diseases and defects of:			
1. Constitution.—Weak and subnormal	in the majority of children.		
2. Nutrition.—Most children were	found suffering from malnutrition and anæmia.		
3. Urgent cases	...	...	163
4. Vision	...	...	484
5. Throat, Nose and Ear. (Precursors	of Consumption)		
6. Teeth	...	...	1238
7. Consumption	...	...	9
8. Enlarged Spleen	...	...	273
9. Internal Organs, &c., Heart, Lungs,	Liver, Stomach, Intestine, Hernia,		
Rickets, etc.	...	...	988

SIGNIFICANCE OF THESE RESULTS.

Practically the majority of children examined had very weak constitutions as shewn by the measurements of their height, weight and girth of chest. The majority presented ill-developed bodies, with narrow chests, round shoulders, bandy legs, lustreless eyes, apathetic looks, general debility and anæmia, in fact they looked like living skeletons. The respiratory capacity was also proportionately poor. Constitution is inherited, and the poor physique of these children can be put down to weakness of their parents. In spite of the fact that heredity plays a large part in the formation of constitution, good results can be obtained by means of sufficient food, regulated physical exercises, and hygienic habits of life, which should be impressed on the children during the plastic years of their childhood. We will consider the subject of nutrition together with that of constitution, as the majority of children showed evidences of both being sub-normal. If the inherited constitution is weak, it

is still more weakened by malnutrition, which is caused by:—

1. Food—insufficient and unsuitable.—The food of the majority of our children consists of a cup of tea and toast in the morning and a plate of vegetables and bread in the evening, after a long interval of about twelve hours.
2. Lack of fresh air and sunlight.
3. Bad home surroundings and neglect.
4. Insufficient sleep.
5. Unhealthy school conditions, over-pressure and fatigue.
6. Employment out of school hours.
7. Congenital debility.
8. Disease.—e.g., mouth breathing, decayed teeth, adenoids, bronchitis, suspected consumption, heart-disease, rheumatism, post-exanthematous debility.

One or more of all these causes were found on investigation to be responsible for the malnutrition existing among our children. What is the significance of weak constitution and malnutrition combined? They both lower the vitality of children, reduce their power of resistance to disease and increase their susceptibility to it. In fact our children are qualifying during their school career for admission into our charitable hospitals and dispensaries, whose number is quite out of proportion to our limited population. What will be the ultimate fate of our community if we allow our rising generations—our hope of the future—to be thus from their very childhood prepared as sacrificial victims for preventible diseases and premature deaths? If biological history of different races of mankind which have flourished and decayed in the past, teaches us anything, it is this, that the neglect of childhood means early decay and extinction of the race, for many diseases act as racial poisons, which reduce the fertility of the race by lowering the vitality and reproductive power of each succeeding generation.

Unfortunately, weak constitution and malnutri-

tion are but two of the large catalogue of diseases our children are suffering from.

URGENT CASES.

About 10 per cent. of the children were found to be in a condition not only absolutely unfit to attend school, but needing immediate treatment, followed by change of climate and rest for at least six months from school work. For all we know, these children must be attending the schools, in spite of our advice given to the parents. One does not know what earthly good these children can derive from being sent to schools under such circumstances. If anything they are certain to get worse and probably leave the world before their allotted time.

DEFECTS OF VISION.

Even the lay public is now sufficiently enlightened to realise the value of glasses for these defects; but correct glasses are not sufficient in themselves for the correction of defects, because if the children at home and at school have to read and work by insufficient light, their vision is sure to deteriorate. Eye-strain is the usual cause of headaches, neurasthenia, spinal curvature, and a host of reflex disorders.

EAR, THROAT AND NOSE.

Not only laymen but even medical men seem to consider the examination of ear, throat and nose, as of little or no consequence. I would therefore here quote the opinion of one of the leading authorities of the world on school hygiene. He says "in view of the serious issues at stake both during school life and subsequently, the examination of the nose and throat is a matter of supreme importance in the routine of medical inspection. The existence of lymphoid enlargements in the fauces and pharynx carries, in the first place, the possibility of serious consequences to the individual child in the form of one or other of the defects incidental to school-age, such as—tuberculous or suppurating cervical glands, nasal obstruction, reflex conditions, disease of the middle ear, deaf-

ness,—proceeding even to deaf-mutism and mental defect—and impaired respiration and pulmonary capacity, often associated with the beginning of pulmonary tuberculosis. In the second place, a child suffering from these defects is a possible danger to the community as being a potential and frequently an actual "carrier" of infectious diseases.

"It is important therefore that the examination of nose and throat should be conducted with the maximum of clinical care for the protection not merely of the child but also of the public." It will be seen that more than half the number of children examined had some defect of ear, nose or throat and enlarged cervical glands; and a still larger number had rotten teeth and foul or septic mouths, which cause loss of appetite, anemia, malnutrition, digestive troubles, etc.

We have partly seen above the significance and danger of these defects, and to complete the picture one may again quote the same high authority on the subject. He says "malnutrition, debility, dental caries, enlarged tonsils, adenoids and measles in childhood are the ancestry of tuberculosis in the adult." There is at present a huge outcry in our community about the increase of consumption amongst us, and we need not be surprised that it is so, for if we allow our children to suffer from the ailments mentioned above, which are the sign-posts and danger signals of consumption give by wise nature, and neglect to take the necessary measures of prevention and treatment, we must pay the price of such shortsighted folly in the dire results of consumption. Our community has spent lacs of rupees in building sanatoria, and considers that to be sufficient provision for the consumptives. But it seems to forget that sanatoria cannot possibly prevent the onset of consumption in children suffering from the pre-consumptive maladies, and the only way to prevent it is to build Open Air schools with sufficient accommodation for all children present-

ing these defects, and treat these defects on their first appearance.

The percentage of children suffering from consumption was about one per cent. which is the usual percentage found in other countries. These children are not only themselves exposed to the certain risks of early death, but they are a danger to their class mates and should be immediately removed from school and sent to some sanatoria for recovery.

ENLARGED SPLEEN.

Enlarged spleen in children is generally due to malaria and is considered by the average lay man to be of little significance. Malaria to the lay mind conveys the idea of a little fever and enlarged spleen, but these are merely the superficial manifestations of disease. As we know, it means the destruction of red blood corpuscles and impoverished blood, leading to devitalisation and degeneration. The physical degeneration is accompanied and followed by moral degradation and intellectual depression. In fact malaria has been proved to be one of the main causes of the decline and fall of Greece and Rome. Apathy, superstition, fatalism, inertia, indifference to the present and the future, prevailing among certain sections of our community may be traced to malaria, which is also responsible for much of the poverty, destitution, vice and crime, about the increase of which we hear so much nowadays. We have above spoken of racial poisons—the worst of which are of universal prevalence, viz., malaria, tuberculosis, venereal diseases, and drunkenness, and unfortunately our community, as we have seen above, is exposed to the first two during childhood, and the latter during adult life; so that our small community of 50,000 souls is attacked on all sides and at all ages by the most virulent enemies of mankind, and we have up to now failed miserably fighting these deadly enemies. Though we have built a number of hospitals and dispensaries as the best agents in such a fight, we find that infant and

adult morbidity as well as premature mortality are increasing with rapid strides, which proves the absolute failure of our armaments in the fight. The cause of this failure must have been obvious by this time from what has been said above. Just as sanatoria cannot prevent tuberculosis, so also hospitals can't prevent malaria and other diseases of adults, if we neglect the pre-consumptive sign in the one case and pre-malarious in the other, among our children, for just as inevitably as the child grows, so will the disease germs in the body grown with it. In fact the soil—the devitalised body of the child—is being thoroughly prepared for the reception of the poisonous seeds—germs of different diseases. The main problem of prevention may be defined, as one of so nurturing the soil as to make it unsuitable for the existence or reproduction of the germs of disease in it. Therefore the remedy is obvious, we must make our children so strong and healthy, that they should be able to cope successfully with disease in all its manifestations; hence proper feeding, open air schools, physical exercises, school-medical inspection and treatment should be provided to bring about such results—the school clinic serving to co-ordinate all these and similar measures.

Not only will these provisions aid us in the prevention of disease but they will also help us to reduce the huge infant mortality as well as the premature adult mortality, reduce the sterility and increase the fertility of our race, but also lead to economic and industrial prosperity of our community, through increased efficiency and wage-earning capacity resulting from good health.

GENERAL DISEASES

Which include diseases of heart, lungs, liver, intestine, stomach, spine, hernia, hydrocele, varicocele, etc.

These diseases, like those we have seen above, incapacitate the child from profiting fully by the education—mental and physical—given in the schools and therefore handicap them in the race

for life. In short, the majority of our children have been found suffering from some disease, defect or starvation, and are practically in an unfit condition to attend schools. The fees paid by their parents and in the case of necessitous children by Parsi charities, which in the aggregate amount to 4 lacs of rupees a year, are being wasted, and the only way to prevent such economic waste is to make the children fit to receive such education by proper medical inspection, supervision and treatment from the date they enter school till the date they leave it. If the function of education is to foster the growth of all human faculties—mental, moral, physical, and economic—of every child leading to attainable human perfection, and the creation of efficient citizens, it is being absolutely frustrated by the existence of diseases, defect and starvation prevailing among our children. "In fact the health and physical condition of school-children lies at the foundation of the health of the adult population. The State cannot effectually ensure itself against physical disorders, unless it begins with its children, since much of the disease and disability among adults springs directly out of the ailments of children. The primary necessity is no doubt to fit the child to receive the education which the State provides in civilised countries under its law of free and compulsory education, but the child's future must also be considered as a unit in the future of the State and the whole business of inspection and treatment of school-children must be viewed as an undertaking of absolute necessity, if the health and physical fitness of the nation is first to be secured and then maintained—" so says a high authority.

VALUE OF A PARSİ SCHOOL CLINIC.

The foregoing arguments will have proved to all thinking persons the absolute necessity of establishing a Parsi School Clinic, both for inspection of school-children and the treatment of the necessitous and the continuous supervision of all. The estimated cost of such a clinic comes to

a minimum of Rs. 20,000 a year. It is often asked where is the money to come from? Our community which has already provided a sum of more than 3½ lacs of rupees per year for the maintenance of hospitals and dispensaries—that is about a 1,000 rupees a day—should certainly be generous and sensible enough to provide a mere 20,000 a year. Leaving aside this question of providing money, we may well ask whether it is not the paramount duty of our community to look after the health and welfare of its children. Let us for instance compare the actual results achieved by 3½ lacs of rupees spent in medical relief per year with the probable results certain to be achieved by the provision of Rs. 20,000 a year for a school clinic. If we read the reports of our Parsi hospitals and dispensaries we shall find that they fail in their primary aim of diminishing morbidity and premature mortality in our community. According to these reports nearly 50 per cent. of the patients discharged derive little or no benefit from such institutions. In fact we can assert that some are actually harmed by attending such institutions. Of the remaining 50 p.c. who are declared to be cured, no proofs are given that the cures are permanent and not merely temporary cessation of symptoms. As a matter of fact hardly 25 or 30 per cent. of the patients get cured or permanently relieved by such institutions, the remaining 75 per cent. have to go to private practitioners, for lasting relief. Therefore out of 3½ lacs of rupees spent per year on medical relief, 75 per cent. of that huge sum is simply wasted. The reason for this failure of institutions in their primary aim and of the corresponding waste of charitable resources is not difficult to seek. We have seen above that our Parsi parents are so indifferent and careless of the health of their children that instead of having the minor ailments treated on their first appearance—thus nipping the mischief in the bud—they allow the poisons of disease to accumulate in their systems, to devitalise them and to prepare the soil for the reception of seeds

of other germs, which as the children grow up, become chronic and need continuous treatment for years together. These deceased and ill-fed children as they grow up recruit the ranks of adult patients who crowd our hospitals and dispensaries, and whose diseases have become so chronic and obstinate that 75 per cent. of them fail to derive any appreciable benefit from these institutions.

We are trying to deal with disease at the wrong end, and should not be surprised if we fail to diminish the preventible morbidity and mortality among us. Let us for an instance count the cost of both these conditions; our annual death-rate is 1450 per year, and for every one death there are three cases of constant sickness, according to the statistics of Indian Census, which practically means 4350 Parsis are constantly sick every day of their lives during the year. To put it in other words, every one of 50,000 of our people passes nearly one month out of every year in constant sickness. If we take as a very modest estimate, the loss in communal income resulting from a month of illness per head as Rs. 100 only, it means that our communal income is reduced by 50 lacs a year. The loss is counted on the loss of income due to incapacity for work, and enforced idleness, *plus* the actual cost of treatment of the sickness for one month. Of the 1450 deaths per year, about a third may be put down as premature deaths resulting from neglect of ailments at their beginning which therefore impoverished the blood, poisoned the system, and in a short time, led to premature death. According to the computations of Registrars of Diseases and Deaths in civilised countries life is shortened by the length of 15 years by premature deaths from preventible diseases. If we value each life's cost at about Rs. 5,000 only, it would mean that we lose every year 5,000 into 500 (the number of premature deaths) equal to about 25 lacs a year. We are therefore losing at the rate of 75 lacs a year, altogether through our inexcusable and criminal neglect in preventing disease

and premature death. This is only a part of the mischief; not only are the patients themselves the sufferers, but if they are the wage-earners of the family, their dependants are equally affected by the loss of income, which may be temporary or permanent, according as the disease yields to treatment or not, or ends in premature decay and death; the outcry of increasing destitution in our community is becoming louder than ever, day by day, and if we look at the source of destitution, we can assert without fear of contradiction that the major portion of it is due to the economic inefficiency and loss of wage-earning capacity resulting from preventible sickness and premature death. As a community, we are engaged in trying to treat the symptoms or results only while disregarding the real cause of the mischief, and it is time, we gave up this sort of folly. We are living in these enlightened times, when the accumulated experience of civilised countries can guide us in dealing with many of these social problems, which are identical as regards their origin in all countries, and so can be solved by identical measures adopted by them. Disease and destitution form part of a vicious circle which is completed by poverty, vice and crime, *i.e.*, demoralisation and pauperisation of a community follows in the wake of sickness and invalidity. The vicious circle can be broken no doubt by adequate means, but the best way of dealing with it is to prevent its formation, which in the end means the prevention, early detection and early treatment of disease and all its manifestations.

Let us now for a moment reconsider the effect of the large number of diseases our children are suffering from, on their education and progress. We know that the majority of our children are suffering from starvation and preventible ailments, and as such, are they in a fit condition to profit fully by the education given in the school? Evidently they are not. The consequence is that the greater part of money spent on their

education is being wasted, as we have seen before. Nearly 4 lacs are spent every year by Parsi parents and Parsi charities for the up-keep of our educational institutions, and the net result is very disappointing. Not only is the money wasted but the brains, the morals, and the physique of the children are equally ruined in the process. We find that boys and girls of 18 and 19 or even older are so far mentally retarded that they are found in the third and fourth standards, when they ought to have passed the Matric or School-Final, and finished their school careers. In the result, we find that these unfortunate children with ruined constitutions and retarded brains derive little or no benefit from their education, and when they leave the school a year or two later, they add to the army of the inefficient and the unemployed, and the destitute, for they cannot possibly be expected to compete in these enlightened times of fierce competition with other people who have been better educated than themselves. If we count the number of school-leavers at 500 a year, it means that after spending lacs on their education for 8 to 10 years we succeed only in recruiting the ranks of the destitute, as well as the large number of patients who overcrowd our hospitals and dispensaries. All this is the result of dealing with problems at the wrong end. If these very children had been looked after from the very day they entered the school, till the day on which they left it, there is no doubt whatever that, they would have been far better educated, and made capable of competing with others in the free market, on leaving the school; and to that extent destitution and poverty could be prevented and progress and prosperity of the community accelerated. The mischief begun in the school lasts through the college life and we find our graduates, when they finish their University career and thrown on their own resources, they also recruit the ranks of the unemployed, for the majority of them seek sedentary occupations of which there are not many vacancies

awaiting them, for there is very little physical energy left in them to engage in more strenuous occupations. It is no use blaming these ill-developed products of our Universities for their inefficiency. Hence the whole educational system with its over-pressure of work and examinations, its indifference to the health of the pupils, its unhygienic buildings and their surroundings, all combine to ruin the pupils subjected to its barbarous discipline. In fact the primary aim of education is stultified, for, instead of development of all human faculties and preparation for life, there is deterioration and decay, and preparation for premature death. Of the more fortunate graduates who succeed in getting employed or business, the majority are cut off in the prime of life, and we have to mourn the loss of some of our brightest intellects through premature decay and death. This is one more cause of the prevailing destitution in our community.

The estimated cost of maintaining a school clinic for a year amounts to a minimum of Rs. 20,000. We have seen that the question is often asked, whose duty is it to pay for the clinic? Wiseacres tell us that as the local Municipality and the Government are going to start schemes of medical inspection, we as a community should not spend anything in that direction. It will probably take about a decade for these bodies to organise medical inspection, supervision and treatment on the same adequate scale as prevails in England for instance. They have not sufficient funds at their disposal, and even if they had, it will take them years to fully organise it as they have to deal with a total of some lacs of children. The mere fact that it is the duty of Municipality and Government to supply medical relief to the poor public, has not prevented us from starting and maintaining the large and superfluous numbers of Parsi hospitals and dispensaries, which at present cost us $3\frac{1}{4}$ lacs of rupees and as we have seen before, more than $\frac{3}{4}$ of this sum is being frittered away every

year in their vain attempts to treat chronic, obstinate and incurable diseases. The clinic will only cost about a sixteenth of this, and its results will be a thousand times more beneficial to the community; for it will begin with early prevention, early detection and early treatment of disease in children and so diminish the number of adult patients for these hospitals and dispensaries and thus make a saving on their annual charges of maintenance. In addition, it will lead to increased economic efficiency of the rising generations and help in the prevention of destitution. It is the best investment our community can make and all sensible persons will agree that it is the paramount duty of every community to look after the welfare and health of the rising generations; as in fact every civilised country has accepted this principle and is spending millions in that direction. The bogey of parental responsibility being diminished, is always raised by people who do not want to do or see anything done, but this bogey has been thoroughly exploded by the actual experience of practical working of similar schemes in all civilised countries, where it has been found that parental responsibility is to a great extent realised and enforced as the result of State care and welfare of the children of ignorant, indifferent and irresponsible parents, for the first time in their lives. We think that as the leading community of India we must not be led by fear of such bogey but as usual be the first to start such institutions of communal benefit and set an example to other backward communities.

ORGANISATION OF THE PARSI SCHOOL CLINIC.

The clinic will have a medical staff of eight physicians and specialists, nurses, clerks, typists, etc. all under the direct control of the medical superintendent, who will be in supreme charge of all the arrangements. The clinic will arrange for the medical inspection and supervision of all Parsi school-children, free treatment of the necessitous, after due investigation into their

family circumstances, and will follow up the case of every child recommended for treatment and see that it is properly carried out. The clinic will be worked in conjunction with a new Association called the Central Parsi School Children's Care Association which will perform all the duties of its prototypes in other countries. The nucleus for such an Association already exists in the shape of the School Medical Committee of the Zoroastrian Conference. The Committee has among its members the leading Parsi educationists, Principals of schools or their delegates, and the leading Medical practitioners of Bombay.

This nucleus needs to be enlarged by the addition of donors and their representatives to the Parsi school clinic and other philanthropic ladies and gentlemen interested in the cause. It will be necessary to have a separate School-Children's Care Committee for every school, and these Sub-committees will be represented on the Association. As with similar bodies, Trustees, Executive Committee, Honorary Treasurers, Secretaries, Auditors, etc., will be appointed, as usual.

OBJECTS OF THE SCHOOL CLINIC.

1. Medical inspection and supervision, free treatment of the necessitous; and "following up," supervision of physical training, and "after care," periodical re-inspections.

2. The children suffering from malnutrition, owing to lack of food, etc., will be recommended for being provided with mid-day meals at school. For this purpose a Parsi School Children's Feeding Fund will have to be organised, for necessitous pupils of all schools, under the direction of School-Children's Care Committee.

3. Children found suffering from enlarged tonsils, adenoids, and other throat and lung troubles will be recommended for open-air schools. These open-air schools will have to be organised under the direction of the school clinic.

4. A certain percentage of children found to

be sub-standard and subnormal will have to be segregated in separate classes, apart from the normal children whose progress they hinder.

5. Urgent cases which need immediate treatment followed by change of air will after proper treatment be sent out of Bombay by special arrangement with the aid of existing or new funds for such purpose.

6. Education of the public as well as the school-children and teachers in hygienic laws for the preservation of health, and prevention of disease by means of lectures, demonstrations, printed leaflets, etc., will be undertaken by the clinic.

7. Research work into the physique and mentality of growing children. The laws of development, the causes of the many minor ailments and infantile diseases, and their share in the etiology of major and chronic diseases of later ages, and the modes of prevention, and treatment, the effects of school-work and home-work on the progress of the individual child and other problems of varying complexity will be tackled and their solution sought for and arrived at.

8. Statistical work.

9. All the problems of school hygiene will be taken up one by one as time and resources permit.

10. Advice as to fitness of individual children for employment of various kinds, will be given to parents or guardians.

So that altogether the clinic will deal with all the problems included in the general term—school hygiene.

At present our work is being carried on by a number of medical volunteers, but it is unfair to ask them to devote their precious time day after day and month after month without any remuneration.

We do not know of any country in the world where an efficient medical clinic has been worked by unpaid volunteers. If we wish to organise it

on sound and permanent basis, we must pay an adequate remuneration for services rendered. As we have already seen, the small sum of Rs. 20,000 set apart for such a clinic, will repay itself a thousand-fold in the benefit conferred on the rising generations, in the reduction of sickness, invalidity, premature mortality, and last but not least, in the diminution of destitution, poverty, vice and crime; and through the increased economic efficiency, lead to increased economic efficiency, lead to increased communal prosperity; the ultimate aim being to produce as high a type of human being so far as the inherited capacity of every individual entitles him or her to be and so to forward the regeneration of our race.

INFLAMMATION OF THE THROAT AS A FREQUENT CAUSE OF FEVERS IN CHILDREN.

There is not sufficient time for me to dwell on the comparative value of non-operative and operative treatment for enlarged tonsils, etc., nor the relation of faucial and pharyngeal pathological enlargement to physiological growth in growing children, nor the relation of such local lymphoid enlargement to general lymphoid enlargement and lymphadenitis, except to mention here that general lymphadenitis with splenic enlargement—not necessarily malarial, has been found to co-exist with cervical and sub-maxillary adenitis in a very large number of cases of this series; nor have I time enough to dwell on the relation of these defects to lisping and other disorders of speech, or to gastrointestinal disorders—particularly “mucous disease,” or to so-called “wasting diseases,” or to acute rheumatism which is in essence a form of sepsis. One point to which I would like to draw your special attention is the frequency of fever up to 105 degrees in children, allied with recurrent acute attacks of tonsillitis and pharyngitis due to our damp and marine climate, misdiagnosed, and treated as malaria if accompanied by enlarged spleen, or as broncho-pneumonia if with abnormal sounds in

the lungs, or as rheumatism if with arthralgia, or as many of the so-called fanciful “Tropical” fevers. I have known in practice a number of cases in which the unfortunate children with fever have been unsuccessfully treated by a succession of doctors who had failed to deal with such cases, for the simple reason that they had never taken the trouble to open the mouth and examine and treat the disorder of the throat in such cases. In a certain percentage of these cases, I have seen children being literally choked to death owing to such neglect on the part of doctors attending them. Our damp and marine climate combined with the general insanitary condition of our city—for instance, the germ-laden clouds of dust flying about all day, the evil smells from the sewers, drains, gullies and unswept roads, the confined air in the unhygienic homes and offices, as also the unclean septic milk, and highly spiced food, altogether, render the lymphoid tissue and mucous membrane of the throat very susceptible to acute catarrh, and by repeated attacks to chronic enlargement and recurrent inflammation, thus gradually impairing the respiratory capacity, and preparing the lower respiratory tract for the attack of various diseases. If instead of having a casual look at the tongue and treating so-called cases of fever on general lines, every practitioner were to make it a point to thoroughly examine the mouth and throat of every patient suffering from pyrexia, many valuable lives can be saved, and prolonged illness and convalescence curtailed by proper treatment directed to the condition of the throat, beyond that usual for the fever, because as we have seen before, 50 per cent. or more of all children have been found suffering from one or other disorder of the throat. I should feel very much obliged if any of our friends here were to communicate the results of their valuable practical experience and not merely their academic opinion on this subject of the association of fever and throat troubles. I should feel further obliged if in future any of you gentlemen were to make observations, and to com-

municate the same to me as I am much interested in the subject.

If we examine the annual mortality statistics of our Presidency, we find that more than 51,000 deaths are due to respiratory diseases, out of which Bombay accounts for 10,000.

If we further glance at the report of Civil Hospitals and Dispensaries, we also find that respiratory diseases are responsible for a high percentage of admissions to out-patient as well as in-patient departments. Hence, there is all the greater need for general practitioners to be always on the look out for the warning signals of respiratory diseases, and thus to prevent in childhood the preparation of the soil for the seeds of respiratory diseases of adult age.

Now-a-days, we are hearing on every side outcries of increasing ravages of consumption, which as we have explained above, are really due to the neglect of pre-consumptive maladies in children, which lead to mal-aeration or insufficiency of fresh air entering the lungs, and subsequent defective oxygenation, impoverishing the blood and vital defences of the body, thus pre-disposing these unfortunate subjects to consumption.

Besides the physical obstruction and inflammation of the upper air passages, there are other factors which intensify the mal-aeration. Chief among these factors are, the ill-ventilated badly-lighted living rooms of houses as well as the overcrowded class rooms of our private and public schools, where the confined air is being constantly polluted during the working hours by the expired air of children, suffering from all sorts of septic mouths, and respiratory and other diseases. As regards our Municipal and Aided Schools, the Chief Health Officer of Bombay reported in January 1912 that “the majority of buildings used as schools are defective in one or more essential points.” We know not what steps have as yet been taken to rectify such a disgraceful state of our schools. The private schools are no better in this respect. In fact it would be no exaggeration to designate our schools “dens of disease and living tombs,”

which give the children "graveyard looks," and where our helpless children are confined against their will, as victims to the holocaust of preventable disease and premature deaths, owing to the inhumanity of our private and municipal educational authorities. Recently there has been some belated awakening and the desirability of building open-air and sanitary schools has been recognised in principle by Government and Municipal education authorities, but the actual building of such schools will take perhaps some decades. We may therefore well ask "is it not possible in a tropical country like ours to convert every existing insanitary school into an open air-school." For instance at least two, and wherever possible, more fixed walls of every class-room can be replaced by detachable partitions, which can be easily removed during working hours, thus exposing every class-room to blasts of fresh air. It does not require engineering skill of a very high order to effect such sanitary improvements, nor would the cost of such improvements amount to a large figure.

As it is a question of health and life, or disease and death to the pupils, such expense should not be grudged by our rich Municipality which is otherwise wasting lacs on undesirable objects. As to the benefit of open-air treatment for children suffering from pre-consumptive maladies, we had recently had an object-lesson of its value in the experiment recently conducted at the Malcom Baug at Andheri, where a number of Parsi sick school children were taken over. The results have been very gratifying, some of the children have gained 4 lbs. in weight within 5 weeks, their general appearance improved considerably, and they are now in a fitter condition than ever before to profit by their schooling. I take this opportunity of publicly thanking the sympathetic Wadia Trustees for their generosity in placing the Malcom Baug at my disposal, and the Parsi philanthropists who paid for the boarding and maintenance of children—Messrs. Merwanji and Hormusji Mancherji Kama, Sir Dorab and Lady

Tata and Sir Temulji B. Nariman and Mr. Dinshaw Mody. I hope that other charitably disposed Parsis will come forward to help us in providing open air treatment for every Parsi child needing it.

Lastly, a word about drill and physical exercises given in our schools. There is no greater farce than the sort of thing that passes for drill and physical exercise, and even the Director of Public Instruction has acknowledged it to be so, and that it ought to be abolished, and replaced by other rational physical Swedish exercises. Personally, I believe that our community would be making better use of its money in building and maintaining open-air gymnasia for our school-children, rather than wasting its lacs on superfluous hospitals and dispensaries. Another point to which I wish to draw your special attention is the danger of giving physical exercises to children without preliminary medical examination; for instance, children with hernia, hydrocele, spinal curvature, heart diseases, etc., are forced to take physical exercises which are not only unsuited to their physical condition but distinctly harmful to their health and life. In connection with this subject I will quote here Mr. Lloyd George who in presenting the budget this year in the Imperial Parliament in reference to special grants to school authorities, said, "they now proposed that there should be a grant for physical training and open-air schools—of which he was told, one-fifth of the children stood in urgent need—for dealing with tuberculosis." Contrast this solicitude for the welfare of children in England with that of our country!

A final word about the scheme of medical inspection started by our Municipality. It has engaged 3 doctors to examine 16,500 children. It will probably turn out a slipshod and inefficient medical inspection, and I don't think any one present here will be prepared to defend such superficial inspection.

The local Government is also going to start a

scheme of medical inspection, and we are surprised to learn that five school medical officers required for the job will be imported from England. I don't see any necessity for importing doctors when we have already got men of ability and experience quite fitted for the task, and on the whole we Indians can better understand the social conditions of our children than outsiders. We ought to make a reasoned protest against such an arrangement.

We are requested to publish the following:—
To

THE REGISTRAR,
THE UNIVERSITY OF MADRAS,
MADRAS.

*The humble Memorial, of S. A. Ahiah,
Teacher, Nagercoil and others.*

SIRS,

We the undersigned, for ourselves and for the sake of a host of other failed F.A. candidates, beg to bring the following for your kind consideration and favourable disposal.

We beg to state that we are the failed F.A. candidates who appeared prior to, or for the last time in December 1910, and who have been refused admission to appear privately ever since.

We beg to say that our prospects in the Educational Department have been marred by the University prohibiting us to improve our qualification by means of private study. In the Educational Department promotion is given according to the certificates one possesses. But in other departments, men of ability can rise in the service, and they can also improve their lot by securing certain Technical certificates by private study. It is to tide over the above difficulty that the Universities of Allahabad and Calcutta have passed special regulations to benefit the teachers and members of the Educational Department by allowing them to appear privately for the various examinations in arts. But the University of Madras have made no such provision for the

teachers under their territorial limits, when they closed their doors against private students in 1911. Had it not been for the stringency in the old Matriculation Examination in which many of us had to tumble down for several years, we also, like the present School Leaving Certificate holders, would have easily entered the College classes with all the freshness for more vigorous mental work and would have passed the First in Arts examination at the first or second attempt and the necessity for addressing this memorial would never have arisen. Furthermore, had we been allowed a choice of suitable subjects as in the present Intermediate Arts, many of us would have had fair chances of passing out with distinction. But owing to the severity of the old Matriculation Examination on the one hand and the disallowance of a choice of subjects in the F.A. on the other, we have to sit down now sighing and bemoaning our lot when we see youngsters, placed under favourable conditions, passing out the Intermediate examination in large numbers.

We further beg to point out that the Universities of London, Cambridge and Oxford and other Universities such as those of forward America, admit external besides internal students to the various examinations. The external students are non-collegiate students residing in Colonies and India. These Universities make no condition of residence or college course but throw open their doors to all alike and the result is, many in unfavourable circumstances in life, improve their conditions by appearing privately for these examinations. In this connection we also beg to point out that as additional facilities for private students residing in the Colonies and India there are many private institutions preparing students for the above University examinations by Postal Tuition. When the world is teeming with so many opportunities for the spread of education by means of private study without any restrictions of age or residence, will the Honourable Syndicate think it too much on our part to

request for private chances to appear for the Intermediate Arts examination? In the above Universities private candidates do not go in for subjects which require practical course. We therefore pray that we also should be allowed to appear as private candidates for the Madras Intermediate Arts examination with similar restrictions, namely, to take such subjects as English, Tamil Composition, History and Tamil Language which do not require practical study.

Again we beg to point out that the Syndicate have been considerate towards the B.A., M.A., and L.T. examinations but they have not been so towards the F.A. examination. According to the transitory regulations of 1910 the B.A. examination under old regulations ought to have ceased with 1912, but the Syndicate have extended that time to 1914 which has been the salvation of many. The M.A. Examination should have stopped with the year 1914, but recently this time has been extended to 1918. Will not the Syndicate be merciful to us also? Could not some mercy be shown to the groaning hundreds of poor Failed F.A. candidates?

We further beg to point out that according to new regulations two more chances are given to candidates who fail once. This concession was never given to the old private F.A. candidates. Will not the noble Syndicate give us at least this last remaining chance? We are in unfavourable circumstances in life and therefore we are not in a position to put in a college course even for one year. We therefore most humbly request that you would be graciously pleased to give us permission to appear as private candidates at least once taking such subjects which do not require practical course.

We beg to remain,

Sirs,

Nagercoil, } Your most obedient servants,
11-7-1914. } The Memorialists.

EDUCATION IN THE MAGAZINES.

(INDIAN.)

Education in India, by Mr. Mark Hunter.

Professor Mark Hunter, of the Presidency College, Madras, and lately Chairman of the Board of Studies in English in the Madras University, who is now home from India on leave, discussed with a *Morning Post* representative on the 23rd July, the progress that is being made in the teaching of English in the Madras Presidency. "A very definite attempt," he said, "is being made to utilise modern methods in the teaching of English. Courses, for instance, are arranged in phonetics and the direct method is employed. Only two years ago a visit was paid to the Presidency by Mr. Daniel Jones, who spent a fortnight there. His arguments in favour of the teaching of phonetics were well received, and now attempts are being made in the secondary schools to teach along phonetic lines. Another means whereby the teachers in Madras are kept abreast of modern views has been the foundation of a branch of the English Association, which circulates its leaflets and bulletins among the members. The question of English spelling is one of our greatest difficulties, and efforts are being made to introduce a system of simplified spelling. The adoption of it in the schools would very greatly facilitate the spread of the English language, but nothing can be done without the authorisation of the Government. The possibility of such an authorisation being granted is far from chimerical, as Mr. Middlemast, who has recently held the post of Special Deputy-Director of Education, is the Treasurer of the Madras branch of the Society advocating the change. The reform would be very greatly welcomed by Indian teachers, who complain that they find English spelling a very serious difficulty to pupils. It has to be remembered that the Indian boy has first to learn to read and write in his own language through the medium of a script which, though comparatively phonetic, is extremely cumbersome, and then to start studying the very inconsistent English script. The argument does not, of course, apply solely to India, but it affects India more intimately than other countries. By the use of the methods I have mentioned English is already tending to be the *lingua franca* of the educated Indian. To an Englishman the language as spoken sounds clipped and rather pedantic, as is inevitable owing to its being learnt so largely from books. The Indians' knowledge of it, however, is thorough and very serviceable. When the students come to the Presidency College, for instance, they have no difficulty what-

ever in following lectures in English, and, further, as there are so many different languages talked there, English becomes a common language, in which all students can converse. Our Honours students have a five years' course after Matriculation and the passmen a four years' course while we have an Honours course that is closely modelled on the Oxford Honours School of English Literature, though only a few students take this."

NEED FOR SPECIALIST TEACHING.

"Unfortunately we have only just discovered in India that special qualifications are required for the proper teaching of English, and there has been rather a tendency to believe that anyone could teach English. This applies both to the University lecturer and to the Indian schoolmaster, who requires special qualifications for the work. Another difficulty against which we have had to contend has been the absence of suitable readers. The infant books prepared for English children are quite unsuitable, as the Indian boy starts learning his English at about nine years of age, after he has mastered reading and writing in his own language. The big publishing houses, however, are now producing suitable readers. As regards the standard attained, we have in Madras had complaints that we have been trying to strike at higher education. This is not the case, but we have been definitely trying to raise the standard. One cannot help feeling that in the past the mistake has been made of having an unduly low standard, and one of our aims at present is to raise the standard in every way by a higher curriculum and by better conditions in the colleges. The hostel system has proved a great success, and the Government of Madras has taken it up semi-officially. The attempt is being made to approximate the conditions to those obtaining in English Colleges, and the Governor of Madras, Lord Pentland, is especially interested in this aspect of education.

"Large numbers of Indian students," Professor Hunter concluded, "wish to go to England to continue their Education, but it is a course that can only be advised in the case of our best students, for merely average students are not able to profit by English education, and tend to be dissatisfied when they return to their own country.

The Mischief of Artificial Examination. by Sir Ashutosh Mookerjee.

Sir Ashutosh Mookerjee was entertained recently by the members of the University Institute, Calcutta, at a social gathering held at the Institute

Hall, at College Square, before a large and distinguished gathering of professors, students and the general public. Among those present were the Hon'ble Mr. J. G. Cumming, Dr. Rashbehari Ghosh, Hon'ble D. P. Sarvadhikari, Sir Gurudas Banerji, Mahamohapadhyaya Dr. Satischandra Vidyabhusan and Rai Bahadur Dr. Chunilal Bose.

Before leaving, Mr. Justice Mookerjee made a speech in the course of which he said that he deemed it one of the proudest moments of his life to be honoured by the members of the University Institute. The interest of the student community had been the object of his solicitude. In the course of his career as Vice-Chancellor, he had made friends as well as enemies. He did not mean enemies individually, but enemies of his principle. It had been said that he had been the apostle of numbers and not efficiency. Though it was true that he had been the apostle of numbers, yet he had never sacrificed efficiency, because for efficiency also he had strenuously fought. It had been his aspiration and his privilege to open the widest floodgate of high education in this country. He was reminded in this connection of an incident which happened many, many years ago, early in his career. It was his fortune to moderate a paper in Mathematics, set by a very distinguished friend of his, no longer now in the land of living. The latter prepared with great care a paper on Euclid in which he inserted the obscurest proposition. The speaker suggested that the examiner should replace that proposition by one of the best known propositions. To this the examiner said that if that was done, everybody would be able to pass, because every one of the candidates would be able to answer it. The speaker's answer was that if 6,000 of his countrymen mastered all the important propositions of Euclid, all of them deserved to pass. It was the duty of the examiner to test the useful knowledge of the candidate, not to lay a trap for him. But examiners were not able to follow this. In his opinion the foremost object of every educationist should be to give the first place to instruction and a subsidiary and secondary place to education. The mischief that had been done by artificial examination was incalculable. For every teacher of experience would frankly admit that the object of education was to see if the candidate was properly educated.

Sir Ashutosh concluded with assuring his hearers that there was likely to be a great protracted struggle for the maintenance of education, and with calling upon every one of the young men assembled there to rally round the banner of the University, which was his quite as much as theirs.

The Training of Secondary Teachers.

The following press note has been issued by the Government of Bombay :—

For some time past the Governor-in-Council has been anxiously considering how the outturn of trained teachers for secondary schools can best be increased. Hitherto the only source of supply has been the Secondary Training College at Bombay. The Director of Public Instruction has pointed out that when it was established, it was designed to train 34 men, 17 probationary teachers for Government schools, 5 teachers for aided schools and the Educational Departments of Native States, and 12 masters from Government schools in permanent employment. Out of the 34 places, 29 were thus reserved for the Educational Department, though it appears that, owing to the number of permanent masters in Government schools available for training being very small in comparison with the number of probationers waiting for training, as many as 27 probationers for Government schools were sent to the college in 1913 as against only 2 permanent employees of the Department. The Rector remarks, however that no account seems to have been taken of the fact that trained men are also required for the posts of assistant deputy educational inspectors and for appointments in the vernacular training colleges, and adds that, if these requirements are taken into consideration, the Department is in need of more men than the number at present allotted to it.

2. It appears that without additional staff and buildings it is impossible to retain more than the present number of pupils. Government have, however, sanctioned a scheme involving a non-recurring expenditure of, roughly, Rs. 50,000 and a recurring expenditure of Rs. 5,750, whereby it will eventually be possible to raise the number to 40. The scheme includes the establishment of two special practising classes, admission to which will be free in order to induce boys to join them, and the provision of a demonstration theatre together with a room to accommodate the educational library and museum at present located in the Elphinstone Middle School. Government fully realise that while the changes at the Bombay College will undoubtedly make for greater efficiency of training, they will not increase the output of trained teachers to the extent which the demand for such men indicates as necessary. They therefore deem it desirable to consider the feasibility of establishing two new secondary training colleges, one for the Presidency proper and the other for Sind, and have

asked the Director to submit concrete proposals for their consideration.

3. It is obvious that, when the Bombay Training College is enlarged and the two new colleges are established, a much greater number of trained teachers will be available for employ in aided schools than at present. But quality is at least as important as quantity, and it is essential that good men should be attracted to the training colleges with a view to obtaining employment in aided schools. It is believed that at present the best type of men do not elect to adopt the honourable profession of teaching in non-Government institutions because its rewards are inadequate and because reasonable security of tenure is seldom guaranteed. Government greatly desire to see the employment of trained teachers in aided schools the rule rather than the exception, and are convinced that this can be obtained only by the general improvement of the conditions of service in such institutions. With this object in view the Government of India's recurring assignment of Rs. 60,000 for aided English teaching and Anglo-vernacular schools, given with effect from 1912-13, has been wholly assigned to these schools in the form of supplementary grants not exceeding one-third of the ordinary results grants, on the condition that two-thirds of these supplementary grants shall be spent on the improvement of teachers' salaries and the remainder on the special wants of the schools, and in the budget for 1914-15 an additional provision of Rs. 75,000 has been made for bringing up the grants to such schools to the one-third level on the condition that the position of the teachers is correspondingly improved. Moreover, the Director of Public Instruction has been asked to state whether it is desirable, in his opinion, to go yet further in the direction of granting financial assistance to these institutions, and the question of increased grants will be considered when his reply is before Government. It may also be stated that the question of establishing a provident fund for the teachers is under consideration. Should the scheme prove practicable, it would supply an additional incentive for good men to adopt the teaching profession as a life career.

(FOREIGN.)

Lord Bryce on the habit of Thinking.

Sir Albert Spicer, M.P., presided on Saturday, July 18th afternoon, at the Mill Hill School Foundation Day Celebrations, London.

The proceedings opened with a reception by the Headmaster, Sir John McClure, in the school

hall, and afterwards Major W. D. Ingles presented shields to the Officers' Training Corps. The prize distribution took place in the Big School later in the afternoon.

Sir John McClure said the number of names at present on the school lists was greater than at any previous time. During the year just closed 98 new boys had entered, bringing the total number in the school up to 277, or as some one beautifully put it to him, "The school is composed of my boy and 276 others."

Sir Albert Spicer announced that Lord Bryce had accepted the presidency of Mill Hill School, and had also promised to present a complete set of his works to the school library.

Lord Bryce then presented the prizes to the boys and afterwards delivered an address. After thanking the Governors for the honour they had done him in making him the first President of the school, he spoke of the importance of cultivating the habit of thinking. Thinking was letting one's mind play on things not concerning one's immediate self. For the purpose of letting one's mind play on such things reading was useful, but care should be taken not to read bad books—that was to say books that were not good of their kind. If a book was not worth the thinking about it was not worth reading. It was becoming the habit of the heads of large business houses to take on public school boys because they put more thought into their work than others, and commerce and industry at the present time were more intricate than at any other time.

Lord Rosebery on Good Manners.

Lord Rosebery distributed a number of the prizes at Epsom College, of which he is President, on Saturday, July 25. At the beginning of his speech he commented upon the fact that the ceremony marked the severance of the connexion between the College and the Headmaster (the Rev. T. N. H. Smith-Pearse) for a period of 25 years, and then added :—

"This is not our only cause for gloom to-day. Never I think, or hardly ever, have I seen the political horizon, both in Great Britain and Europe, so charged with clouds, pregnant with thunder, as it is depicted to-day. I am not hereto talk about that, but it would be foolish in the presence of the many adults before me if I passed so grave a subject without the slightest allusion."

Lord Rosebery, after remarking that the work of the headmaster would remain as a monument, and making the reference to the political situation given above, said that the season for distribu-

ting prizes had begun, just as the season for part-ridge shooting began on September 1, and for the next 10 days they would see—at full length in the columns of local papers and more obscurely in metropolitan journals—that some good man, generally venerable, often a Bishop, had been engaged in the task of distribution.

From the very moment we had consciousness, he said, the world was constantly carving and chiselling at our characters—carving and chiselling sometimes at woods so soft that they never repaid the trouble, sometimes at woods which split so easily that they were not worth anything at all; but sometimes also at fine woods, like old mahogany, which got richer and nobler the older they got.

He firmly believed that the years they spent in school were far more important in the formation of character than all the many years they might spend afterwards. The school moments were the supreme moments, the moments which decided whether they were going to be men in the highest sense of the word, or whether they were going to pass through life as atoms. There was one way and one way only by which the character of a man at his best showed itself, and that was by his manners. Of course, that was not an infallible way. He had known many excellent people who from shyness had the most execrable manners, and who, judged by their manners alone would have been dragged to the block without benefit of clergy. On the other hand, he had known scoundrels with the most charming and fascinating manners given to them by nature for much the same purpose as the web was given to the spider.

Many of those present were going into the noble profession of medicine, and he did not know of any calling in which manners were of such importance. Any of them who had been attended by a doctor must have known the difference between the man who came in with an expression gloomy and austere enough to take the heart out of the most courageous patient and to make him wish to leave this life rather than have any further experience of it, and the doctor who instinctively seemed to spread a sunny atmosphere through the room and a feeling of hope and encouragement. If the first kind of doctor was the best in the world and the second was only third rate, he would a thousand times rather have the third rate doctor, except, perhaps, for an occasional consultation.

He had intended at the end of his speech to make the offer of a medal to the school, to be voted for by the upper boys, for character, conduct, and manners. He noticed, however, from one of the

prizes that his purpose had been anticipated. They must therefore, go on striving to win that prize and he should find some other deserving school to which to give the medal.

Lord Moulton on Napier.

The opening meeting of the Napier tercentenary celebration in Edinburgh was held on July 24, in the hall of the Students' Union, when Lord Moulton delivered an address. The Lord Provost presided over a large gathering of representatives of mathematical science who have come from all parts of the world to do honour to the memory of the inventor of logarithms.

Lord Moulton said that Napier of Merchiston was prominent among that small band of thinkers who had increased substantially by their discoveries the powers of the human mind as a practical agent. The inventor of logarithms came on the world as a bolt from the blue. No previous work had led up to it. Nothing had foreshadowed it or heralded its approach. It stood isolated, breaking in upon human thought abruptly, without borrowing from other workers or following known lines of thought. Did it come as a revelation to Napier bursting on him as a light from Heaven or was it the result of slow growth? The fact that Napier worked for 20 years at logarithms before he published his first book on them was decisive on the point. It must have been a slow and gradual evolution, even though that which remained furnished so few traces or the earlier efforts. Lord Moulton proceeded to trace the steps by which Napier probably advanced. There were indications, he said, that Napier set out with the idea of constructing tables that would enable the product of two sides to be ascertained readily. Seeing that the trigonometrical tables enabled the product to be found without actual multiplication, he conceived the idea of constructing special tables which would do that in a better and more expeditious manner, to create tables which would enable numbers to be multiplied together without actually performing the operation. They must not be expressed, as they were in Arabic notation, as proceeding in an order resulting from addition. They must proceed in an order resulting from continued multiplication. Napier's first idea was to start from the figure of 10,000,000 and repeatedly multiply by a factor slightly less than one, using the factor so that the first difference would only be unity and therefore all later differences would be smaller than unity. In that way he hoped to be able to get the number which, for all practical purposes, might be taken to represent the natural numbers to any process of multiplication. Origin-

ally, therefore, Napier contemplated nothing further than repeated multiplications by a factor very close to unity so that each multiplication reduced very slightly the number operated upon.

Having endeavoured to trace out the path by which Napier arrived at his discovery, Lord Moulton said that he had sought not to diminish the greatness of the achievement, but to make it less mysterious. As it stood in his written book it was well-nigh uncanny. He preferred to think of Napier's work as more human—as the persistent effort of a great mind to perform a task which it had deliberately set to itself and which step by step it pursued to the end.

THE UNIVERSITIES.

MADRAS UNIVERSITY.

The Syndicate has resolved to recommend to the Senate that the B.A. Degree Examination under the Old By-laws be continued for the years 1915 and 1916, subject to the proviso that candidates for these examinations be required to pay the following application fees:—

	Rs.
English Language Division	18
Second Language Division	12
Science Division	24

Should the Senate accept the recommendations of the Syndicate, a full statement of the conditions under which the above examinations will be held will be duly notified in the ordinary course.

The Text-books for the examinations will be the same as for the examination of 1914.

BOMBAY UNIVERSITY.

Commercial Education in Bombay.

At a meeting of the Bombay University Senate, Mr. K. Subramania Aiyar, Principal of the Bombay School of Commerce, and formerly of Calicut, moved that an offer of Rs. 17,000 from a widow in the name of her deceased husband for the foundation of three scholarships for the encouragement of the study of commerce among Hindus be accepted.

In moving his Resolution Mr. Subramania Aiyar said that the Syndicate had considered the point that scholarships for the benefit of and any particular section of the community are objectionable in a "University."

The proposal was opposed by Sir Ramkrishna Bhandarkar, Principal Paranjpye and others, all of whom disapproved of "sectional scholarships." The Rev Dr. Mackichan supported the proposal of accepting the offer but said that he was glad that members had raised a protest against the sectarian character of the scholarship. He supported the

proposal this time; for in it he saw a distinct advance, namely, that it was not restricted to the particular section of the donor's community but was open to all members of the Hindu community. That, he said, would not draw them backwards but it would be a step in the direction of unsectarianisms towards which they were all striving. Other speaker, followed Dr. Mackichan, and finally the proposal to accept the offer was carried.

CALCUTTA UNIVERSITY.

Senate Meeting.

A meeting of the Senate was held at Senate House, College Square, Calcutta. The Hon'ble Dava Prasad Sarvadhicary, Vice-Chancellor, presided, and there was a fair attendance of Fellows.

Professor of Economics.

It was resolved that Mr. Mann Subedar, B.A., B.Sc., be appointed Assistant Professor of Economics for a term of five years on a salary of Rs. 500 rising to Rs. 750 by yearly increments of Rs. 50 on condition that if within the term of his appointment he desires to resign, he will have to give six months' notice.

Leave to Dr. Young.

Dr. W. H. Young, Hardinge Professor of Higher Mathematics, was permitted to leave Calcutta for Europe, so as to enable him to sail from Bombay on the 13th of March next.

Presidency College.

The Senate next resolved that the Government of India be moved to sanction the additional affiliation of the Presidency College, Calcutta, in Physiology to the M.A. and M.Sc. standards, with effect from the Session 1914-1915.

Tagore Professor of Law.

With reference to the resolution of the Faculty of Law, dated the 16th July, 1914, namely,—“That the Faculty are not prepared to recommend any of the candidates for appointment as Tagore Professor of Law for the year 1915”—the Syndicate recommended to the Senate that none of the candidates be appointed Tagore Professor of Law for the year 1915.

The Hon. Babu Mohendra Nath Roy moved that the recommendation of the Syndicate be accepted.

The motion was put and carried.

Some other formal items of business having been gone into the meeting separated.

TECHNICAL EDUCATION.

YOUNG MEN'S INDIAN ASSOCIATION.

The Y. M. I. A. is beginning very active work for the benefit of Madras young men, and is likely to become an institution of ever increasing usefulness. It has opened a Commercial Institute at its Headquarters on the 27th ultimo with the following arrangements:—

Admissions:—Pupils having a fair knowledge of English such as that possessed by an average High School student, are admitted. Pupils may join the Typewriting Class at any time during the year, but those who wish to appear for the April Examinations should join before the end of July. Admission in the other classes can only be had in the July of each year.

Hours of attendance:—Typewriting Classes are held from 7 to 11 A.M. and from 4 to 7 P.M. The other classes are conducted only between the hours of 7 and 10 A.M. and 5-30 and 7-30 P.M.

SCHOOL FEES PER MENSEM.

Subjects.	Elemen- Inter- Advan- Grade. Grade. Grade.		
	Rs.	Rs.	Rs.
Typewriting	1 8 0	2 8 0	3 0 0
Shorthand	1 0 0	1 8 0	2 0 0
Book-keeping and Accountancy	1 0 0	2 0 0	2 0 0
Commercial Practice	1 0 0	2 0 0	2 0 0
Commercial Geography	1 0 0	2 0 0	2 0 0
Banking and Economics	1 0 0	2 0 0	...
English (Compulsory)	0 8 0	...	...

All students must be members of the Y. M. I. A. A concession of Re. 1 will be made if the whole term be paid in advance. Terms are from July to December and from January to April.

MADRAS SCHOOL OF ARTS.

Many interesting points are raised in the annual report of the Principal of the School of Arts in Madras, for the academic year 1913-1914. The most striking point is the neglect of the fine arts and artistic pursuits by the Indian public, or more properly the enlightened section of the public. The school is reported to have been doing creditable work in the creation of an aesthetic conscience and trained workers, but the workers are not drawn from those sections of the community which can enhance the value of education in arts and industries, and when trained men and finished products are turned out they do not secure the hearty and liberal patronage that they deserve. The Principal says:—"My faith in conducting the school as much as possible toward the preservation of Indian art is stronger each year, and I try to make every possible effort in this direction. Practically no help is

obtainable towards this end from educated Indian people, except in very rare instances, as they invariably seem to prefer bad European art to good Indian. Any encouragement under the circumstances must come from Europeans, and while there is sufficient European encouragement from laymen, few professional artists or architects from European countries visit Madras."

Reviews and Notices

A GLOSSARY OF TUDOR AND STUART WORDS, BY W. W. SKEAT AND A. L. MAYHEW. (THE CLARENDON PRESS, OXFORD). 5s. net.

The adequate study of literature begins with an appreciation of the precise significance of words. The literatures of particular epochs need special guides with regard to the peculiar uses of words during the periods embraced by them. While lexicons like the *New English Dictionary* subserve this purpose in some measure, there is need for volumes like the one under review. In these days of specialised literary and linguistic study it is highly desirable that each period should have not only its important texts but a large body of manuals relating to the period for purposes of reference. Prof. Mayhew who has already achieved quite a reputation for himself in linguistic study is responsible for this excellent digest of Tudor and Stuart words and he deserves to be congratulated on the thoroughness with which he has carried out this enterprise.

It is a pity Prof. Mayhew did not enlarge upon the somewhat imperfect material left by the late Dr. Skeat. The collection of words might very well have been more comprehensive and there does not seem to be any point in limiting it practically to dramatic literature. The present writer found numerous gaps in the course of some random references made to it during two or three weeks with a view to elucidate for English classes the special significances of certain words in sixteenth, seventeenth and early eighteenth century literature. We hope the list will be made much more comprehensive in succeeding editions of the book. We have only to add that in the interests of clearness the quotations and references might very well have been longer, despite the danger of adding to the volume of the book. We have however no hesitation in saying that it is an invaluable book of reference to all teachers of English and must find a place in every school and college library.

PALGRAVE'S GOLDEN TREASURY WITH ADDITIONAL POEMS AND NOTES, BY C. B. WHEELER. (OXFORD UNIVERSITY PRESS). 2s. 6d.

Prof. Palgrave's excellent anthology of English verse has been a classic of no ordinary value in its line affording its unerring guidance to all lovers of good poetry. Though it is risky on the part of any editor to interfere with the work of such an eminent critic, it is idle to deny the need there is for bringing the volume up-to-date, so as to include specimens from recent English Poetry. Mr. Wheeler has on the whole discharged his task with keen judgment and considerable ability, and we have no doubt the usefulness of the book has been greatly enhanced by the additions supplied by the editor. As the volume is intended for students Mr. Wheeler has supplied notes at the end and our only complaint with them is that they are too profuse and even words which might very well have been left to the readers' efforts have been commented upon. We should not expect the editor to waste his time and increase the bulk of the book unnecessarily by explaining the meaning of the words "prophetic" or "garish" or tell the student gravely that the word 'pale' in poetry means enclosure. We see the word 'still' is commented upon a number of times in the course of the volume. But the biographical notes supplied about the writers included in the volume are very valuable and constitute a very great improvement on the original editions of *Palgrave's Golden Treasury*. We confess we must be failing in our duty if we did not take objection to one or two of the additional pieces introduced by Mr. Wheeler. We are quite certain that *Barbara* by A. Smith and *The Ode* by A. W. E. O'Shaughnessy would not have been included by Prof. Palgrave. At least the judgment of recent criticism on the writers and the position they occupy in popular judgment might have guided Mr. Wheeler's taste with some advantage.

CHAUCEER'S PARLEMENT OF FOULES, BY C. M. DRENNAN, M.A. (UNIVERSITY TUTORIAL PRESS). 1s. 6d.

The University Tutorial Press deserve to be congratulated on this addition to their useful series of editions of literary classics. The book under review has a very valuable and comprehensive introduction and the notes are quite good. A glossary enhances the value of the book,

and the brief treatment of Chaucerian grammar found in the volume will be found quite sufficient by the average student of Chaucer's poetry. We wish, however, the author had written a readable essay on Chaucer's life and work instead of giving a skeleton like analysis of the principal incidents in his career and the names of his important works.

THE BIBLE OF TO-DAY BY REV. ALBAN BLACKISTON, M.A. (CAMBRIDGE UNIVERSITY PRESS). 3s. net.

The literature of Biblical criticism has assumed such enormous proportions at the present day that a handy manual on the subject has become a great necessity. The Rev. Blackiston furnishes such a manual not only for the general student but also for those who aspire to enter upon a serious course of Biblical study. It would not make any special appeal to the layman if it had confined itself to a study of textual criticism but the author has wisely dealt with such topics as the Inspiration of the Bible, the Historical Background of the Period, and the Relation of Biblical thought to the philosophers and writers of the earlier centuries. We have no doubt the book will be found immensely useful not only to all those interested in Christian Theology, but even to the general reader.

THE ROMAN AND THE BRITISH EMPIRES, BY BRYCE. (OXFORD UNIVERSITY PRESS). 6s. net.

We welcome as an old friend this volume in which Dr. Bryce issues in a revised form his two essays entitled "The Ancient Roman Empire and the British Empire in India" and "The Diffusion of English and Roman Law throughout the world" which appeared in his "Studies in History and Jurisprudence." It is a kindly act of condescension on the part of Dr. Bryce to print these essays separately for the benefit of "Students of Indian History who may not care to procure those volumes." Any commendation of a work of Dr. Bryce must somewhat be an impertinence, so firmly has he established his reputation as scholar and thinker. But it may be well to point out a few errors into which he falls. For instance, Dr. Bryce seems to have been profoundly impressed with the military character of the British administration in India—while those here see so little of the military that we are surprised that a handful of soldiers and a few civil officers scattered over a wide extent of territory are able to keep in subjection 300 millions of people of another

race and creed. Natives of India, says Dr. Bryce, have not shown any very great administrative talents, and points out Justice Telang and Sir Syed Ahmed Khan as two of the very few exceptions to the rule. We will content ourselves with remarking that both the general rule and the exceptions are founded upon a profundity of ignorance of India which is astounding. Again, Dr. Bryce is afraid that the introduction of English Education in India may have results far from happy for India. We do not share his apprehensions. Judging from the effect of English education in India in the past, the future is full of hope. Indeed we feel that Providence has designed English education to be its instrument for the regeneration and uplift of India. Except for a few inaccuracies and errors of statement like these, Dr. Bryce's book will remain an invaluable contribution to Indian Political Science and continue to command respect for generations yet to be, both for its learning and its power of thought.

SHAKESPEARE STORIES, BY CONSTANCE AND MARY MAUD. (EDWARD ARNOLD). 1s. 6d.

An earlier volume of Shakespeare Stories by the same writers was noticed in the columns of this journal sometime back and this will be welcomed as an abridged edition of the same book, much better fitted for use in Elementary schools. We complained about the bad illustrations in our last notice and we regret we have to repeat our sense of dissatisfaction in the matter.

MACAULAY'S ESSAY ON CLIVE, EDITED BY A. J. F. COLLINS, M. A. (UNIVERSITY TUTORIAL PRESS). 1s. 6d.

The essays of Macaulay on the two great Indian Pro-consuls are rather difficult for an Englishman to edit, especially in view of the knowledge of Indian History and Geography required for the task. Mr. Collins has edited the essay with a fair amount of thoroughness and has a valuable introduction on the career of Clive and the style of Macaulay. Mr. Collins must however look up the latest edition of the *Imperial Gazetteer of India* for the correct spelling and pronunciation of Indian names—the traditional, badly anglicised forms must no longer be continued. Those familiar with the places in South India touched by Macaulay's narrative will notice a few amusing errors on the part of the editor

who attempts to locate them. Arni is not to the North of Madras, but to the South. We find Mr. Collins is able to make his notes interesting by references to the latest things in literature. He is able to point out for instance, that Col. Burgoyne who surrendered at Saratoga figures as a character in Bernard Shaw's *Devil's Disciple*.

OLD TIME STORIES AND OLD WORLD CUSTOMS, BY
A. GERTRUDE CATON. (MACMILLAN & CO., LTD.)
1s. 9d.

This is a collection of the three parts on the same subject which appeared some time back and noticed in these pages. As the lessons combine history with literature, they will be found to be of great value as aids to general culture and we hope to see them employed for non-detailed study in our schools.

LORD CLIVE, BY T. S. KRISHNA AIYAR (ST.
JOSEPH'S INDUSTRIAL SCHOOL PRESS). 12 as.

We have always been particularly anxious to encourage the literary attempts of Indians in English, but we are afraid we cannot say much in praise of this drama on Clive. It is a fairly interesting attempt at presenting in dramatic form some of the episodes in the career of the founder of the British Empire. There is not however much of a dramatic motive and there is only a chronological sequence about the scenes that constitute the play. We appreciate the author's modesty in not attempting to write English verse, when he is apparently not qualified for it, but we confess it is only a grotesque effect that is produced by making his characters repeat well-known snatches of poetry, from other writers, however appropriate they may be for the occasion. There is also sometimes the anachronism of characters repeating lines of poetry written at a later period. It is curious again that the author should not have cared to embody in his play one of the most well-known incidents in Clive's Indian career, the account of the courage displayed by him as a clerk, in a quarrel with a Colonel who cheated him at cards, celebrated in Browning's *Clive at Madras*. It is specially regrettable as the episode is particularly well-fitted for dramatic treatment. The author has taken considerable trouble to illustrate the book.

'KAMBAN AND HIS ART' BY C. P. VENKATARAMA
AIYAR, M.A., L.T. (PUBLISHED BY C. KUMARA-
SAMI NAIDU & SONS, MADRAS.) Re. 1.

Literary criticism is almost unknown to Tamil. There have been great poets and equally great commentators; but no one has ventured to tread on the thorny ground of literary criticism. Naṅkīrar, a member of the third Tamil Sangam, it is told, found fault with a stanza (கொங்கு தேர்வாழ்க்கை.....) said to have been composed by God S'okkānatha himself. Apart from this legend, we do not find any work of literary criticism in the true sense of the term, in the whole range of Tamil literature.

Pulavar Purāṇam in verse and Tamil Nāvalar Caritra Dipakam in prose, give biographical accounts of well-known Tamil poets, but neither of them attempts at examining their literary skill or poetic merit. Certain superior excellences of some of the poets are, however, brought out in some stray stanzas and proverbial expressions; for instance, the stanza, 'கெண்பா வீற புதழேந்தி' points out the skilled art of each of some very well-known poets. M. R. Ry. Chelvakesavaraya Mudaliar may be said, without any fear of contradiction, to have been the first man to write a critical estimate of two great masters of poetic art in Tamil, one the author of an epic (Kambar) and the other a moralist (Tiruvalluvar), from a purely literary and linguistic standpoint.

It is highly gratifying, therefore, to find a work of the kind of 'Kamban and his art' written by a man who has understood the scope and nature of literary criticism, and who has at the same time, unlike modern English-educated Tamilians, a great veneration and love for the Tamil language and the glorious literature in that language. As a maiden attempt and as the first work of its kind in English the book ought to be welcomed most heartily.

The theme of the book is an appreciation of the poetic art of Kamban, the Emperor of Poets. The author has, by means of quotations and translations, attempted to illustrate the greatness of the poet, in his imagery, delineation of character, narrative skill, description of the sublime feelings, choice of expressions and the euphonic beauty and excellence of his verses. But one is led to pause and consider whether by these quotations and translations the author has succeeded in achieving the object of his ambition. It may well be doubted whether the quotations go to prove the literary skill of the author of the

Tamil Ramayanam or that of the author of the Sanskrit Ramayanam. For Kamban has but translated Valmiki pretty faithfully and the delineation of character may therefore be said to belong entirely to Valmiki. Much of what has been said about Kamban refers therefore to Valmiki, for, if a translator has ever succeeded in bringing out all the elegance and beauty and grandeur of the original, Kamban is one such. Where then is the original art of Kamban? It is not in the weaving of the plot of the story of the Ramayana; it is not in the portraying of the characters in that great epic; it is not in the utterances of Rama and Sita and Bharata and Hanuman on serious occasions: it is rather in the description of the rivers and the trees and the forests, the sunrise and the sunset, the changes of climate, in the utterances of the hero and heroine while they wander through the wilds, in the fine exquisite sketches of the life of the Vellalars (cultivators). It is here that the poet is out and out a Tamilan, exhibiting his thorough and masterly knowledge of Tamil poetics, his rich and powerful imagination, and his keen and accurate observation of nature. Some of these traits of the poet have no doubt been illustrated by Mr. Venkatarama Aiyar, but one would wish he were able to lay his fingers on stanzas which are the poet's own in excellence and beauty.

Another fact which strikes one as curious is that, although Kambaramayanam has been reputed to abound in gems of inestimable worth peculiar to Tamil poetry, the author of 'Kamban and his art' has not, broadly speaking, pitched upon stanzas other than those already called by Mr. Chelvakesavaraya Mudaliar in his essay on Kambar (in Tamil) already alluded to.

As regards the translations, it may equally well be doubted whether they are faithful and whether they retain the force of the original. 'உழக்குவியிழைந்தோருயிர்ப்பொறையு மொத்தான்' is translated as 'the born blind who gain their sight by a miracle.' It is remarkable that Mr. Venkatarama Aiyar who was able to translate the first three lines of that stanza and thus know the exact points of resemblance in those beautiful similes, has failed to notice that the joy of Sita was like unto that of a man who, having had eyesight and known its value, lost it and regained it. Again the stanza 'பாழிய பனைத்தோளவீர..... யான் மறவிலாமனத்தேனென்னில்..... இன் றென விருத்தியென்றான்' is translated thus:— 'O thou of majestic build and huge strength,..... even as I am a person of spotless character, may God bless you with an everlasting life.....' It is a

common-place among women to say 'If ever I am a virtuous woman, this or that will happen.' And it is this commonplace that Kamban puts into the mouth of Sita. Sue says 'If ever I am a woman of spotless mind, you will (I bless you may, not may God bless you may) remain for ever as you are now (meaning his youth, strength and devotion to Rama). Surely a condition is not the same thing as a reason.

A comparison of Kamba Ramayanam and Jivaka Chintamani will at once bring to light how closely Kamban had studied all the works extant in his time—he was a classic himself; he knew the literature of his language and he succeeded in his attempt to imitate and out-rival it. He was a man of stern independence, not caring for king or crown. Says he 'உன்னக் கண்டோ தமிழை யோதினேன்' addressing a king. ஏரெழுபது shows that he was a great patriot and a lover of his caste-men; Sadagoparantadi shows that he was a pious and ardent devotee of Vishnu. In the choice of words to convey on the one hand the exact meaning and on the other hand a double or treble or even quadruple meaning, in composing that particular kind of stanza suited for epic poetry, viz., the viruttam, he is unsurpassed. The points of difference between Kamban's version and the original might well have been noted in a critical estimate of his art. While he describes the Gangetic plains, he is in fact describing the Kaveri plains; while he describes Ayodhya, he is in fact describing Madura. While following the main thread of the Sanskrit narrative, he abridges or elaborates as occasion required in order to give a dramatic colouring to an incident, or to produce a stronger epic impression on the minds of his readers. 'Iraniyan Vadaippadalam' in the Yuddhakanda is Kamban's own and does not find a counterpart in Valmiki's epic. This canto is in itself a masterpiece of the great poet, evincing all his scholarship and inventive genius. In the description of the marriage of Rama and Sita, Kambar deviates from the original and gives an elaborate and at the same time vivid account of it. One important point where Kamban has totally changed the account of Valmiki is worth observing inasmuch as he establishes and corroborates it in so many places in such forceful language: it is the way in which the cruel Ravana carried away the chaste Sita.

When we examine the style of Kambar, we find that he lived at a time when there was a transition from the old realistic school of pure Tamil poetry to the new romantic school of Sanskritic poetry and when the classic style of the Sangam

period was changing under the influence of Sanskrit religious literature. Speaking of the Kamba Ramayanam, Dr. Caldwell says, "The Tamil imitation never condescends to be natural, much less prosaic, but is always elaborately rhetorical and ornate. It piles up epithet upon epithet, simile on simile, till the thought is obscured and the narrative interrupted and almost forgotten. To the Tamil ear it seems the perfection of sweet harmonious rhythm, but to the severer European judgment its sweetness borders upon lasciviousness, and its harmony too often suggests the idea of monotonous jingle. The difference between the Tamil and the Sanskrit Ramayanam may be compared to the difference between Pope's Iliad and the Iliad of Homer; but this comparison, though a just one so far as it goes, gives only an imperfect idea at best of the difference between the two works. Notwithstanding its faults of style, from the point of view of a cultured taste, the Tamil Ramayanam is undoubtedly a great poem and in this department of composition the Chintamani alone can dispute with it for the palm of supremacy." This remark of Dr. Caldwell only goes to show that none but the Tamils can appreciate and enjoy the sublime and the beautiful in Tamil literature any more than a eunuch can find pleasure in the company of Ramdba, one of the celestial damsels.

In a work of the kind before us, one would expect to find selections illustrating most of the abovementioned traits of Kamban and a critical examination of the remarks of professors like Dr. Caldwell about him. But as the author himself admits in his 'Prefatory Note' that it was his ambition for a long time past to present to readers unacquainted with Tamil, an account of the writings of a few of the best poets in Tamil literature, all this does not appear to have been within his province to deal with. The book is bound, however, to appeal to those who, without knowing Tamil, wish to gain some idea of the much-spoken-of Kambaramayanam.

PUBLICATIONS RECEIVED.

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- The Children's Rossetti: Junior, 4d.; Intermediate, 5d.; Senior, 6d. London: Macmillan.
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Indian Educational Notes.

MADRAS.

Government Orders—The Government sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 4,750 towards the cost of extensions to the buildings of the C. M. S. High School, Ellore, subject to the following conditions:—(1) that in carrying out the work the suggestions of the Chief Engineer in his note No. 314-D., dated 20th July 1914, are adopted; and (2) that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled, the grant will be paid as funds become available.

The Government sanction a grant not exceeding one-half of the actual expenditure nor Rs. 6,477 towards the cost of extensions to the American Arcot Mission High School, Madanapalle, subject to the following conditions:—(1) that in carrying out the work the suggestions of the Chief Engineer are adopted; and (2) that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Government sanction the proposal of the Director of Public Instruction to open a higher

elementary training class in the Government Training School, Berhampur, for a period of three years and to employ therein the following additional staff during the period:—One assistant on Rs. 40 per mensem. One drawing and drill instructor on Rs. 30 per mensem. The latter will not be eligible for grain compensation allowance. No expenditure under this sanction should be incurred before the necessary funds have been provided.

The Government will be prepared to sanction the payment to the Young Men's Christian Association, for a period not exceeding five years and a half, of an annual grant of Rs. 2,760 or one-third of the salary, whichever may be less, towards the cost of employment of a Physical Director, subject to the conditions specified in paragraph 1 of the Director of Public Instruction's letter and on the understanding that the person selected as Physical Director will be a fully qualified medical man, who has had full professional training in physical education and practical experience in the work contemplated.

The Government approve the proposals submitted by the Director of Industries for the organization of a second peripatetic weaving party to be employed in the northern districts of the Presidency on the same lines as that now touring in the south. The party will in the first instance be constituted for a period of one year and will consist of a Superintendent on Rs. 75 per mensem, a maistry on Rs. 30 per mensem, a cooly weaver who will receive daily wages subject to a maximum of Rs. 20 per mensem, and a peon on Rs. 8 per mensem. The provision made for cooly labour and the other items of expenditure provided for in the appendix to the Director's first letter are also approved. The peon will not be eligible for grain compensation allowance. The Director of Industries will be requested to submit a re-appropriation statement to meet the charges that may be incurred on this account during the current year.

The Government sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 19,450 towards the cost of constructing a new building for the Sacred Heart School, Tellicherry, subject to the following conditions:—(1) that in carrying out the work the suggestions of the Chief Engineer in his note No. 285 D., dated 10th July 1914, are adopted; and (2) that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available. The Government are pleased to waive their claim in regard to the grant of Rs. 2,630 spent on the existing building which it has now become necessary to demolish.

The Government sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 3,950

towards the cost of extensions to the building of the Edward Coronation Secondary School, Hindupur, Anantapur district, subject to the following conditions:—(1) that in carrying out the work the suggestions of the Chief Engineer are adopted; and (2) that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Accountant-General will be authorized to receive the sum offered by M. R. Ry. K. R. Raghunatha Rao of Kumbakonam and to purchase with the amount such securities admissible under section 4 (3) of the Charitable Endowments Act, No. VI of 1890, as are likely to yield the best return. He is requested to furnish the Director of Public Instruction with particulars of the securities purchased and the balance in cash, if any. The applications and the draft notifications referred to by the Director of Public Instruction will be awaited.

The maximum amount of the grant sanctioned in G. O. No. 328, Educational, dated 24th March 1914, for the construction of a hostel for the A. B. M. High School, Nellore, will be raised from Rs. 10,000 to Rs. 12,700.

Teachers' College Teachers' Association, Saidapet.—At a meeting of the Teachers' College Teachers' Association (Senior Branch) convened by the Principal, Mr. H. S. Duncan and presided over by Mr. R. W. Ross, the Vice-Principal the following office-bearers were elected in the order noted below:

Mathematics Section—Mr. S. Ramachandra Aiyar.
History " Mr. Sivaram Iyer.
Science " Mr. Ramkrishnaiyah.
General " Mr. T. S. Krishnamurty.

Managing Committee:

The Principal and the Vice-Principal (ex-officio).
The Secretaries of the various branches: Mr. R. S. Srinivasaiyengar (elected), and Miss Bartley (elected).

Corporation Model School, Korukupet.—This school was formally declared open at a largely attended meeting of parents and pupils by Mr. Rao Bahadur P. Theagaraya Chettiar, Municipal Commissioner, 2nd division. Mr. A. C. Pranatharthihara Aiyer, Inspector of Schools, was present. The proceedings began with a prayer and a welcome speech by Mr. N. Swaminathan, Sub-Assistant Inspector of Schools, Georgetown. Both the Commissioner and the Inspector of Schools addressed the parents and pupils explaining the object of the Corporation in starting these model elementary schools and giving advice concerning their duties regarding the real education and training of the children of the *petta*. The meeting terminated with the singing of the National Anthem and distribution of fruits and

pan supari. A group photograph was taken of the visitors and the staff.

The National High School Day, Trichinopoly.—The members of the National High School Day Celebration Committee met recently in the High School Hall and resolved that the School Day celebration be held on the first Saturday or Sunday of September when it is expected that Mr. C. P. Ramasawmi Iyer of Madras will deliver a lecture suitable to the occasion.

A new School at Calicut.—Mr. C. A. Innes, I.C.S., the Collector of Calicut, performed on the 4th inst. the opening ceremony of the new building erected by Mr. M. Kunhamed, a leading Moplah merchant of the town, at a cost of Rs. 5,000, in commemoration of the Delhi Durbar, in order to locate the Kuttichira Moplah School, which is under the management of the Calicut Municipal Council. There was a large gathering of officials and non-officials present in response to the invitations issued by Mr. Kunhamed, and they were, on arrival, received by the Moplah gentleman and accommodated in a *pandal* specially put up for the occasion, and decorated most tastefully.

After the usual formulation the Collector declared the school opened. His speech was a very interesting one in which due acknowledgements were made of the public spirit of Mr. Kunhamed and his liberality to his countrymen.

The present condition of Tamil.—At the inaugural meeting of the Pachaiappa's College Tamil Sangam, held recently, Mr. T. Chelvakesavaraya Mudali delivered an address on "the present condition of Tamil." Rao Sahib T. Ramakrishna Pillai was in the chair. The lecturer gave a short history of Tamil literature from the earliest times. He said that Tamil prose was flourishing at present but good works in poetry were not being created. The Tamil literature would continue to flourish although the University did not help it in its growth and he was sure they would see fifty years hence the literature in Tamil far better than it was at present. He exhorted the students not to neglect the study of their mother tongue and to help forward its growth. The Chairman said that mere pecuniary considerations ought not to interfere with the study of the language but they should study it for the love of it. Those who wrote in the vernacular had their reward liberally and he quoted the instance of Rabindranath Tagore who received the Noble prize. He also enjoined on them the necessity of writing prose in racy and simple style.

The Teachers' College, Saidapet.—The report on the working of the Teachers' College, Saidapet, during the year ending March last is a record of successful work done. The High School attached to the College has been staffed by permanent teach-

ers and the College itself is, owing to the recently carried out reorganisation, performing a most important function. The science branches have especially been strengthened and students are afforded practical training of a kind which ought to prove very useful to them. The strength of the College on the 31st March last was 126 as against 122 on the corresponding date of the previous year, and 102 of the former were graduates. It is possible that this number may diminish—unless, of course, other measures are simultaneously taken—owing to the revival of the training section in the Rajahmundry College. But there is unfailing and growing demand for qualified teachers which is evidenced by the fact that all students who were relieved this year are declared to have secured appointments, and a larger number could be admitted into the College, the number of scholarships being increased proportionately. Of the 102 graduate students on the rolls on 1st March 1914, 17 were Indian Christians, 7 were non-Brahman caste Hindus, and 78 were Brahmans. They were distributed according to their special subjects as follows:—Mathematics 29; Physical Science 35; Natural Science 1; History and Philosophy 37. There were three lady graduates under training during the year. Of the 102 graduates, 92 were Government stipendiaries, 7 were deputed by the Director of Public Instruction with an allowance ranging from Rs. 23 to Rs. 30, 2 were free students and one came from the Pudukkottai State. Ninety-four graduates appeared for the L. T. Degree Examination held in April 1913 of whom 91 passed.

Kallikota College.—August 3rd was really a gala day in the annals of the Kallikota College, Berhampur, as on the eve of the retirement of the oldest member of the College Staff, Mr. Goda Sreerama Sastry Garu, the Telugu Pandit of the College, it afforded an opportunity to the old and new students of the College to meet and express their heartfelt gratitude and tribute to the past services of one, who for more than 35 years identified himself with the College and loyally served it. In spite of the inclemency of the weather many students past and present, the College staff, and Mr. V. V. Jogiah Pantulu, the new Public Prosecutor, and also the new Vice-President of the College Committee attended the function. The Principal Mr. K. Ganapathi Aiyar, B.A., L.T., F.M. V. to whom, no doubt, the College owes so much of its present position and under whose regime it has made such rapid strides in all directions, presided. On behalf of the students of the College a present student read a *Navaratna Malika* eulogising the past services of the learned Pandit. An old student of the College Mr. P. Krishnamoorthy said a few words in praise of Mr. Sastry. It is within the memory of everyone of those that were educated by him that he was by far the best disciplinarian among the College staff. The Pandit in his short speech said that he joined the College in 1878 and served under Principals

like Kenny, Guba, and others the veteran educationists. He was there in those days when Government abolished the College and some of the patriotic sons of the District saved it. He was there during the darkest days of its trial and also during those brighter days, when day by day it was progressing under the present Principal. He pointed out that it was under the present Principal that the strength of the College rose from a couple of hundreds of pupils to nearly seven times its number. It was always a pleasure to him to have served such a master. No doubt it is a matter for congratulation that under Mr. Ganapathi Aiyar the College has expanded and it is the earnest hope of every one interested in the institution that ere long it becomes a first-grade College. In the end the Pandit thanked the students for having honoured him so much and blessed the College to prosper more and more and be an instrument to uplift the mother country. The students of the College presented the venerable friend with a shawl. The President of the evening said that it was gratifying to find that the students of the College should have appreciated the services of a Pandit, who so long served it. He said that it only showed what love and esteem the students have towards their retired Pandit. The College owed so much to him and it was a pleasure that the retiring Pandit would be amidst them and that they might at any time depend on his indulgence and advice. In the end he wished long life and continued rest to the old Pandit. With a vote of thanks proposed by Mr. M. Gangaraji the proceedings came to a close. A procession was arranged and all those present escorted the Pandit home.

The Maharajah's Sanskrit College, Vizianagram.—The opening ceremony of the new building of the Maharajah's Sanskrit College came off on the 2nd instant with Mr. R. W. Davies, I.C.S., the District Collector, in the chair. There was a large and distinguished audience among whom were noticed the Maharajah, Mr. F. W. R. Robertson, I.C.S., Mrs. Robertson, the Rev. Father Voison, Rao Bahadur K. Ramanujachari, the Principal, Mahamahopadhyaya T. Subbaraya Sastry, Dr. C. Mangayya Naidu, Dewan Bahadur V. Ananta Row, Mr. B. Sriramulu Pantulu, Mr. A. Subba Row, the District Munsiff.

The Proceedings began with the reading of an interesting report on the institution by Rao Bahadur K. Ramanujachari, the Principal, which gave a history of the institution from the time it was founded by Sir P. Vijayarajam Raja K.C.S.I., the adoptive father of the present Raja. It was indeed gratifying, said the chairman to learn from the interesting and exhaustive report read by the Principal that the college which was founded about sixty years ago was being maintained by the Samasthanam. The College, declared the speaker, was one of the most up-to-date and advanced institutions in India and was far ahead of its sister institutions in the Madras Presidency. He hoped that more stu-

dents from the Telugu parts, such as the Ceded Districts, would resort to the institution in large numbers for the study of the ancient language. Speaking in general of Sanskrit, Mr. Davies said that it was almost dead but that its study was kept up in institutions like these. The speaker referred to the famous despatch of Lord Macaulay which gave little encouragement to the study of the noble language and also to the Renaissance period when the study of classical languages in the West was revived. But as at present Greek and Latin were not so universally studied for several reasons, similarly the study of Sanskrit literature had fallen into abeyance. In his opinion, said the speaker, the study of Sanskrit was desirable, as much as it embodied the finest philosophy in any language and the most subtle and metaphysical ever known. Moreover he did not doubt that the study of classical languages such as Sanskrit afforded the best intellectual discipline to men. At the end of his remarks, Mr. Davies gave expression to his joy at the maintenance of the College and also alluded in feeling terms to the premature death of Sir Anandaraj who was well-known for his generosity and love of letters. The building was then formally declared open and after a vote of thanks to the Chair proposed by Mr. F. W. R. Robertson, the meeting dispersed.

Presidency College.—The following are extracts from the report of the Principal of the Presidency College, on its working for last year:—The number of students on the college rolls during the year under review is, I believe, considerably higher than the number reached at any former time in the history of the college. The intermediate classes have, I think, slightly exceeded the strength for which provision can comfortably be made, while the Pass B. A. classes have risen very much beyond the figure which was judged sufficient when the college was reorganised to meet the requirements of the revised University courses. The large number of students in the fourth year Pass B. A. class was explained by Mr. Middlemast in last year's report, in accounting for the admissions made to the third year class in July 1912; but the absence in 1913 of the special circumstances referred to by him, has made very little difference to the number admitted to the corresponding class in that year. Undoubtedly it is very difficult indeed to keep down the Pass class when large numbers of qualified applicants, many of them with special claims in the college, are pressing for admission; but Intermediate and Pass B. A. classes with a total strength of nearly 500 undoubtedly put a very severe strain on the department of English. The results of the University examinations held in March and April 1913 are shown in Appendix C. They may be regarded as satisfactory. We secured a high percentage of passes in the compulsory division and in most of the other divisions of the new Pass B. A. Degree Examinations, and the results of the Intermediate Examination were at least well above the average for the whole

Presidency. The fact however that, in spite of careful selection of the best material that comes from the schools, little more than half the number of those so chosen succeed in satisfying the University test at the end of two years, shows that the schools are still a long way from providing a really adequate training for pupils intending to proceed to University courses. Eighteen students of the college passed the M. A. degree examination as against seven in the previous year. As the best students in the college are Honours students, and as there was no Final Honours Examination in the year under review, the examination results of the year are no true index to the work of the college. For the same reason our list of University prize-winners is without much significance, as our best students were out of the running. There were 14 University prizes awarded for which Presidency College candidates were eligible; of these 14, five fall to the college.

Kumbakonam College.—The following are extracts from the report of the Principal of the Government College, Kumbakonam, on its working for last year:—Out of the 37 students in the B.A. classes, 11 studied in group I, 14 in group IV and 11 in group V. The remaining one student attended the class for English language only. In the Senior and Junior Intermediate classes, there were 209 students—74 in group I and 135 in group III. Five subjects were taught under the latter group, viz., (1) Ancient History, (2) Modern History, (3) Logic, (4) Sanskrit, and (5) Tamil. The numbers studying them were 128, 130, 80, 30 and 37, respectively. The new laboratory buildings (including the workshop and gas-room) referred to in the last year's report, were completed and handed over to the college authorities during the year. The science laboratory has been working in the new buildings from 8th December 1913. A sum of Rs. 1,850 has been sanctioned for the construction of a room for electric plant and fittings. The work has not as yet been started. The college has been supplied with gas plant, which, however, has not been put in working order. The compound walls to the north and east of the newly-acquired additional play-ground have been completed during the year. A sum of Rs. 120 has also been sanctioned for providing iron railings and gate in continuation of the eastern compound wall up to the limit of the river margin. The work has not as yet been commenced. The number of books issued from the library during the year (including books and periodicals issued for temporary use during class and library hours which amounted to 5,135) was 12,405 against 9,516 in the previous year. The number of volumes added to the library during the year was 518 and the total number of books in the library on the 31st March 1914 was 7,588. The average strength of the hostel during the year was 54 against 34 in the last year. The average monthly rate of boarding fees exclusive of room rent was Rs. 9-4-5. There was only one section during the year for both the Smarthas and Vaishnavas. The total receipts during the year

amounted to Rs. 6,632-15-3 and the charges to Rs. 6,371-6-6. M.R.Ry. S. V. Venkateswara Ayyar, M.A., L.T., Assistant Lecturer in History, continued to be the Sub-Warden throughout the year. Discipline was good. Badminton was played and the Hostel Literary Society met as usual under the guidance of the Sub-Warden. The working of the hostel was on the whole satisfactory.

BOMBAY.

Higher education of Mahomedans.—In February last Mr. Mahomed Usuf of Bombay gave eight lakhs of rupees for the promotion of the higher education of Mahomedan youths. The gift was unconditional but was accompanied by a desire on the part of the donor that an institution, preferably a College, should be located in Bombay or Poona. The Government find it would be difficult and expensive to find a suitable site for an institution with hostels and playground in Bombay. Moreover a college would probably be a small institution for some years to come and correspondingly expensive to conduct. To meet these difficulties it has been suggested that the Mahomedan institution should be wholly or partially incorporated with the Deccan College at Poona so that Moslem students would have their own hostel, but would attend in common with the other students of the Deccan College and similarly would share the Gymkhana and playing field with them. The Director of Public Instruction has invited the opinions of leading Mahomedans on this suggestion. If it is adopted it would obviate the difficulty felt in some quarters that hitherto all Government institutions have been non-sectarian and that it would be a new departure to initiate a College strictly limited to one section.

Oriental Scholarships.—A Committee consisting of the Hon'ble Mr. Sharp, Director of Public Instruction, the Hon'ble Moulvie Rafiudin Ahmed and Dr. Sir Ramkrishna Bhandarkar had been sitting at Poona for the purpose of determining the names of those Moulvies and Pundits who are deserving of Government assistance for the purpose of helping forward Oriental Scholarship. The Bombay Government has set apart a sum for the purpose in this year's budget.

Teaching of Science in Bombay.—The following Press Note has been issued by the Government of Bombay:—

In December 1912, Government sanctioned a revised science curriculum for secondary schools, and directed that it should come into effect in November 1914. Its introduction into Government high schools involves the preparation of text books, the purchase of apparatus, the provision of laboratories and the training of teachers. The steps taken towards supplying these needs are detailed below.

The text-books are being prepared by Mr. P. Wren of the Indian Educational Service, who has himself taught school science and has had previous experience in the writing of school books. His drafts are submitted to a number of experts before receiving final sanction. In all, seven readers will be required one for each standard together with a teacher's hand-book for each. Several of the text-books have already been published and the remainder are in active preparation. In addition to this the Inspector of Science Teaching is preparing some special exercise books in which the pupils will record their observations and experiments, and which will be sent to him periodically for inspection.

Model indents for the apparatus necessary for physics and chemistry have been prepared and circulated, and in most cases the apparatus has already been ordered. Government have allotted a sum of Rs. 66,760 to defray the cost.

The present science rooms in the high schools are for the most part unsuited for the teaching required by the new course, as they are not designed for individual work on the part of the pupils. Hence the Inspector of Science Teaching has designed a type of school laboratory, and plans and estimates are in course of preparation. It is hoped that work will be begun in many cases during the current year. In the meantime temporary arrangements are being made for improving the present rooms sufficiently to enable the course to be taught, and for this purpose Government have sanctioned the expenditure of Rs. 11,054.

Every Government high school already possesses a special teacher for science. When the new course is fully developed, certain schools will probably require to have the staff strengthened, either because of the number of boys working at mechanics, physics and chemistry in the upper standards, or because of the class teachers of the lower standards not proving competent to undertake the simple nature study prescribed. The strengthening of the staff will be considered in due course. Even the present science teachers are perhaps not fully qualified to teach the new course, because they themselves, though graduates, have had comparatively little experience of practical laboratory work. The Inspector of Science Teaching therefore intends to hold a training class for science teachers between November 1914 and March 1915. Each class will meet for a full fortnight and be put through selected experiments, the discipline of laboratory routine being explained at the same time. It is believed that by this method an efficient body of science teachers for schools will be obtained.

CALCUTTA.

Narinda Girls' School, Dacca.—Her Excellency Lady Carmichael delivered the following address while opening the Narinda Girls' School at Dacca on Monday the 3rd instant:—

"It was a great pleasure to me on arrival in Dacca the other day to find that I was to have the privilege of opening this new school. When I was here last year Miss Garrett brought me to see your school so that I fully realize how much the new building was wanted.

The years of an Indian girls' school life are not long before her marriage and therefore it is most necessary that they should have every opportunity of making the most of that short time; I hope therefore that those parents and guardians who realize what a difference education will make to their daughter's future happiness, will encourage them to attend school as regularly as possible and show their interest in the work that is being done in the schools by encouraging the mistresses and inspectress who give up their time to teaching and helping the children. It can do so much to keep the school efficient to help the mistresses and inspecting staff. The Government have been very generous in the improvements which have been made in this school and I hope those that are interested will show their appreciation of this by coming forward to help in giving the small amount which is still needful to make the school comfortable in the way of furniture.

I will have much pleasure in giving towards this, and I hope that those who wish to show their interest in the school will make up the rest."

MYSORE.

Compulsory Education in Mysore.—The Government of Mysore have introduced compulsory education in the Province and have directed that the system may be brought into operation in special areas such as Bangalore and Mysore cities, Davangere, Nanjangut and Doddballapur. With a view to give effect to the working of the system in Bangalore City, the Inspector-General of Education, Rao Bahadur M. Shama Rao, M.A., recently met the Bangalore City Municipal Commissioners, by special appointment, in their office premises. He was accompanied by Mr. C. Krishna Rao, B.A., Deputy Inspector-General of Education and Mr. H. Dasappa, B.A. Circle Inspector.

There were assembled in the Municipal office Dewan Bahadur Bajasabha Bhushana, K. P. Putanna Chetty, Hon. President, and Messrs. C. Venkata Rao, B.A. Vice-President, D. Venkataramayya, B.A., H. Ramayya, D. B. Ramachandra Mudaliar, B. Usman Khan, Siddanavettarrappa, B.A., Garudachar, C. V. Narasimamayengar, B.A., B.L., Rev. Edwards, Messrs. D. Adeppa, M. Subbiah, B.A., and Yacub Sahib.

The Hon. President introduced Mr. Shama Rao to the Council and spoke about the necessity of the City Fathers co-operating with the Educational Department to bring the important scheme into working order.

The Regulation was then read. The Inspector-General of Education explained the regulation, in the course of which he laid stress on the fact that the Government were anxious to give food to the minds

of children and that parents were bound to send boys under the ages of 7 and 11 to school and that employers should not employ such boys without lawful excuse. He said liberal exemption were also provided in the Bill.

Foreign.

Professor J. C. Bose in England.—Interest is being evinced by the medical profession in the researches of Prof. J. C. Bose on the action of drugs upon plants. Representatives of the Royal Society of Medicine visited his Laboratory recently to witness the reactions on the plant bodies caused by various stimulants, anaesthetics and poisons. Among these visitors were the President of the Royal Society of Medicine, Sir James Reid, Physician to His Majesty the King, Sir Lander Brunton, whose researches in medical science are classical in Europe. Sir Lander Brunton, is of opinion that somelight upon the effect of various drugs and poisons on animals would be thrown by observing their effect on plants. But hitherto no means of investigation on this subject had been devised. He expressed his appreciation of the delicacy of Dr. Bose's apparatus.

As a result of this visit Prof. Bose has been invited to give an address to the Royal Society of Medicine. The last occasion on which a foreigner was invited to address this Society was when Prof. Metchnikoff visited England. The well-known scientific journal "Nature" has devoted ten columns to an illustrated synopsis of Prof. Bose's recent discoveries.

SCHOOL AND COLLEGE SPORTING NEWS.

MADRAS COLLEGIATE ATHLETIC ASSOCIATION.

ENGINEERING vs. LAW.

The match between the above teams took place on the Engineering College ground. Play was somewhat one-sided and the Engineers who were having an uninterrupted succession of wins scored an easy victory in the match.

PRESIDENCY COLLEGE vs. ROYAPURAM MEDICAL SCHOOL.

The above teams, neither of whom had had a success so far, met on the Presidency College ground and the visitors scored their first win in this tournament.

ENGINEERING vs. PACHAIYAPPA'S.

This match between the above teams, which was one of the most important fixtures in connection with this tournament took place on the Engineering College Ground in the presence of a large gathering of spectators. With both sides at very nearly full strength, a great fight ensued, play being unusually fast and full of excitement. These two teams who had not had any reverse so far in this tournament retired at the end of an hour's strenuous play with honours easy, the match ending in a pointless draw.

PRESIDENCY vs. LAW.

The above teams, neither of whom had had a success so far met on the Presidency College Ground. The Lawyers who pulled off the match by the narrowest of margins, namely, one goal, recorded their first win in this tournament.

MEDICAL vs. PACHAIYAPPA'S.

The match between the Medicoes, the holders of the Cup, and the Pachaiyappas, which was one of the most important fixtures in connection with this tournament took place on the Medical College ground. Both sides were at full strength and play was interesting from almost the very commencement.

PRESIDENCY vs. CHRISTIAN.

The above teams met on the Presidency College Ground. While the Christians were very nearly at full strength, the Presidency were rather poorly represented, illness depriving them of the services of four of their prominent players. However, play was quite interesting to watch and the Christians won the match by 3 goals to 1, a score which hardly did justice to the splendid fight put up by the Presidency.

The Inter-School Football Tournaments.

HINDU HIGH SCHOOL vs. KELLETT HIGH SCHOOL.

The above match was played on the Madrasa grounds. Both the teams were full. For the first few minutes the game was even, neither side seeming to have the advantage. All the attempts of the Hindu High School to carry the ball to the opposite goal were baffled by the stout defence of Riahmed the captain. The Kelletts won by 3 goals to nil.

KELLETT HIGH SCHOOL vs. S. P. G. HIGH SCHOOL.

The above match was played on the Madrasa grounds. Both the teams were full. The game was extremely exciting. When the final whistle blew the Kelletts were left winners, having put 2 goals against 1 goal of the S. P. G. Team.

M. C. A. ASSOCIATION.

Cricket League.

The Annual League Tournament in cricket for the Professors' Cup commenced with three matches. There were in all seven entries, two more than last year, with several of them of almost equal strength and none particularly stronger than the rest, as the Wesleyans. They were the holders of the cup last year, and the interest in the tournament was likely to be sustained till almost the finish, unlike last year, when the result of the tournament was a forgone conclusion.

MEDICAL vs. LAW.

The above teams met on the Medical Ground, and the match ended in a win for the Medicoes by 47 runs.

ENGINEERING vs. CHRISTIAN.

The match between the above teams was played on the Engineering College Ground. The Engineers managed to pass the visitors' total for the loss of

only 8 wickets, thus winning the match by two wickets. W. C. Old and Shama Rao, who scored 36 runs each, both played well.

PRESIDENCY vs. WESLEY.

A very one-sided game was witnessed in the match between the above teams played on the Presidency College Ground. The Wesleyans, who entered on their innings after lunch, fared miserably, being all disposed off for 37 runs which left the Presidency winners of the match by 124 runs. Ramaswami who proved almost irresistible took 6 wickets at a loss of 17 runs while Desikan and Sankara Rao captured 2 and 1 for 7 and 6 runs, respectively.

S. I. A. A.

Tennis Tournament.

The two matches in the semi-final round of this tournament were both played. In spite of the uncertainty of the weather, there was a fairly large attendance. Of the two matches, that between Bunga Rao, the Mysore Champion, and Gajapathi, the Collegiate Champion proved somewhat one-sided. The match ended in two sets only.

The match between Singaravelu and Narasimhan, which attracted the greater attention, as anticipated, produced a magnificent struggle. Both players were in excellent form, hitting hard and placing the balls with great accuracy. Narasimhan played the waiting game even then and lost several chances of finishing. It was this defect of his and nothing else that accounted for his defeat. Two very interesting matches in the third round of this tournament were played. The match between Singaravelu and Nagarajan though it finished in two sets only produced some excellent tennis. The match between Sambasiva Rao and Gajapathi was productive of an exceedingly hard struggle, the latter turning it eventually by the odd set in three after losing the first set. Both players were quite good at the net and played a dashing game.

Singaravelu beat Nagarajan 7-5 and 6-3.

Gajapathi beat Sambasiva Rao 7-9 and 6-3 and 6-2.

The two matches in the semi final round being reserved that between A. V. Charry and Narasimhan. As anticipated a great fight ensued but contrary to expectations, A. V. Charry, who was generally regarded as the favourite, was upset Narasimhan who played a rattling good game scoring a remarkable win after two tough sets.

Narasimhan beat A. V. Charry 6-4 and 6-3.

The final match in connection with this tournament was played between Ranga Rao and Singaravelu before an unusually large gathering of spectators.

M. V. G.

Cadets' Hockey Tournament.

ST. MARY'S vs. BISHOP CORRIE'S.

The above teams met in the semi-final of this tournament at the head-quarters. The St. Mary's, who had inflicted a crushing defeat on the Adyar Orphanage on the opening day, won this match as well rather easily.

The Educational Review.

Once more has Prof. Bose been honoured with the privilege of lecturing at the Royal Institution on the field of research which he has made his own. The significance of his research does not lie in the novelty of his results, though these are as wonderful as any which modern scientists can boast of, nor even in the great generalizations they lead to, though there are epoch-making in the advance of scientific theory; but it consists in the exhibition by the ingenious Professor of inventive and mechanical skill such as, it has been supposed, the dreamy oriental is utterly devoid of. He has invented automatic recorders which register the reactions of plants to stimuli automatically supplied in measurable quantities, reactions which prove that plants possess biological activities which till now have been assumed to be confined to animals. For the fascinating story of how he has surmounted experimental difficulties we must refer the reader to the abstract of his lecture published in *Nature*, of July 23, 1914. His automatic plant-recorder has been so devised that by its means it is possible to record a time-interval which is the thousandth part of the duration of a single beat of the heart. With this instrument Prof. Bose has proved that the plant *Biophytum* is eight times more sensitive to an electric current than a human being. By its means he has discovered the true phenomena of the

sleep of plants, which name has been till now wrongly applied to the closure of leaflets of certain plants during darkness. The true sleep of plants is indicated by an answering twitch of a weak amplitude to the electric shock. It has thus proved that the sensitive plant goes to sleep in the small hours of the morning. An excess of carbonic acid gas causes as much discomfort to a plant as to an animal. Though dissection has not revealed the existence of nervous tissue in plants such as animals have, Prof. Bose's recorder has proved that excitation in plants is transmitted not by mechanical means, as when a wave impulse is carried along water, but behaves exactly like a nervous impulse. To test this Prof. Bose followed twelve different methods of investigation and has established that "the impulse in the plant is identical in character with that in the animal." He has gone further and proved that plants possess spontaneous pulsation comparable to the heart-beats of animals. The most remarkable measurement of Prof. Bose is that by his magnification crescograph, by means of which are obtained records of the absolute rate of growth of a plant in a time so short as the single beat of the pendulum. He has been able to magnify the growth of a plant a million times so that the plant seems to rush forward as if in a race. Lastly Prof. Bose has been able to observe the spasm of death with which a plant gives up the ghost—at least whatever ghost it has. "In man, at the critical moment, a spasm passes through the whole body, and

similarly in the plant I find that a great contractive spasm takes place. This is accompanied by an electric spasm also. In the script of the death-recorder the line, that upto this point was being drawn, becomes suddenly reversed and then ends. This is the last answer of the plant." The drooping and withering of the plants are post-mortem events. Professor Bose's final words describe the great scientific significance of the results of his research. "The plant has thus been made to exhibit many of the activities which we have been accustomed to associate only with animal life. In one case, as in the other, stimulus of any kind will induce a responsible thrill. There are rhythmic tissues in the plant which, like those in the animal, go on throbbing ceaselessly. These spontaneous pulsations, in one case, as in the other, are affected by various drugs in an identical manner. And in one case, as in the other, the tremor of excitation is transmitted with a definite and measured speed from point to point along conducting channels. The establishment of this similarity of responsive actions in the plant and animal will be found of the highest significance; for we now realize that it is by the study of the simpler phenomena of irritability by the vegetal organisms that we may expect to elucidate the more complex physiological reactions of the animal."

Two folio pages of "events of the year" form the noteworthy feature of the report of Sir Alfred Gibbs

Public instruction in Madras in 1912-13.

Bourne on Public Instruction in the Madras Presidency for 1912-1913. Some of these events are trivial, *e.g.*, the information that the number of members of the Text-Book Committee has been raised by six. Some display the enthusiasm of the Department in catching hold of the wrong end of the stick, *e.g.*, the creation of 48 temporary posts of Sub-Assistant Inspectors, the cost of which might have been more usefully spent in improving the pay and prospects of Primary schoolmasters and thus securing the services of better men than those semi-starved, half-educated and totally despised men that teach little children in town and village elementary schools. The most notable event of the year is, in our opinion, the revision of the Grant-in-Aid Code in which one important new provision has been introduced—"In future the teaching grants to Secondary schools may be increased under Rule 32 by half the amount of the fee income foregone under Rule 102 of the Educational Rules in respect of Muhammadans, Uriyas and other backward classes and castes." This is a very desirable alteration in the Grant-in-Aid Code and it is but just that schools should be encouraged to admit pupils from backward classes on favourable rates of fees. That they will do only if this provision be liberally applied. So far we have heard only of one institution which has been reimbursed for loss of income by admitting half-raters, like the Uriyas and we know of many that have not been so treated.

The other notable event of the year is the advance in the number of both schools and scholars. "With the help of the Imperial grant for popular education..., 119 Municipal and 1,665 Board Elementary schools for boys were opened during the year, nearly 40 per cent. of which were schools taken over from private management in pursuance of the policy of placing under the care of Local Boards or Municipal Councils some of the numerous 'teacher-manager' or venture schools. Public Elementary schools increased by nearly 5 per cent., and their strength by nearly 8 per cent." While this is a matter for congratulation, we cannot regard as a sufficiently adequate reform the fact that "the minimum pay of trained or approved teachers in schools under public management was raised from Rs. 8 to Rs. 10 and aided schools were assisted to provide a similar enhancement." We regard that the salary of Rs. 10 a month is scandalously low as the starting pay of a trained Elementary school teacher. To increase the Inspecting staff while the teaching staff is so underpaid—in fact the starting salary of an Elementary school teacher is less than that of a head peon and the earnings of a barber or washerman—is a wanton misdirection of public expenditure. That teachers are at all available for this pittance of Rs. 10 per mensem is due to the fact that most of them supplement their incomes by devoting the time that ought to be spent on teaching to paying work of other kind—acting as purohits, petition-

writers, private tutors of the sons of rich villagers and so on.

The report of the Teachers' College, Saidapet, recounts a gratifying tale of activities on the part of the 126 teachers under training there in the year 1913-14. The Teachers' College is no more the home of old-fashioned methods of instruction but trains the raw recruits in the teaching profession in modern methods and in its practising department sets the model of Secondary school work. Teachers under training are, besides being trained in the work they want to specialise in, taught drawing, drill, and other minor accomplishments. The L.T. students were also made to listen to a course of lectures on Physiology delivered by Captain Skinner, I. M. S. "The original proposal was that the students should attend the Medical College for a special course by Lieutenant-Colonel Donovan, I. M. S., but as it was too late in the year to arrange for the lectures to be delivered there, Captain Skinner was deputed to give a course at Saidapet." We do not see what purpose was aimed at by the course of lectures on Physiology, which we presume, was human and not general physiology. Considering the notorious ignorance among people of sanitation especially so far as it concerns germ-caused diseases, we consider that a course of lectures on this subject would have been of much greater benefit. A casual visit to any school will reveal what a lot of preventible diseases school

pupils are suffering from and how much improvement in their health can be effected by the schoolmaster if he were educated out of his traditional belief in the circulation of humours and grounded in a real knowledge of the methods of preventing ordinary diseases by attention to modern sanitation. The average Indian parent being hopelessly ignorant of the life and action of microbes, the schoolmaster can very well be used for acting *in loco parentis* in the matter to school pupils.

Not only the I. M. S. officers of the Madras Medical College but those throughout the country ought to co-operate with schoolmasters in raising the standard of public health. For this purpose, in our opinion, Government ought to depute the District Medical and Sanitary Officer and, if need be, of his Assistant and Sub-Assistant Surgeons to the work of periodical visits to schools for the medical examination of pupils and sanitary examination of school houses and surroundings. We have often felt, when visiting schools, especially low-grade ones and those for Panchamas and other backward classes, that before teaching the pupils the alphabet and the "Simple Rules" of Arithmetic, it is the sacred duty of the schoolmaster to plunge them daily one after another in a tub full of water and distributing to them some disinfecting ointment. This would train them, more than the acquisition of the A. B. C., to live happy lives and to be less of a danger

to the community. We have also known of school houses, with but a solitary hole in one of the four walls and that too high to be of service in admitting the pure, cool air from outside. The multiplication of such school-conditions which will result from the expansion of elementary, or as it is now the fashion for the Government to call it, popular education cannot but bring new dangers to the public health. Hence it behoves on the Government to arrange for the periodical examination of school buildings, school premises and school pupils by its medical experts and to aim at the removal of dirt, visible and invisible, in school life and secure a perceptible rise in the standard of public health. If in European countries the periodical medical examination of schools and school pupils is found necessary, it is much more so here. Mysore, which is generally ahead of the rest of India, in most matters, has made a beginning in this direction. It is necessary that British India should follow the lead of this enlightened native state and arrange for a systematic inspection of schools and occasional instruction of schoolmasters in matters relating to sanitation. What we suggest is but an urgently needed first step towards the thorough organization on modern scientific lines of public education, such as Mr. C. R. Narayana Row, M.A., L.T., Professor, Central College, Bangalore, has outlined in his interesting and instructive articles in these columns. His ideal of a net-work of Boarding schools, main-

tained by means of an education cess and managed by popularly elected School Boards in accordance with the ideal conditions attempted in Western countries will alone raise this country to its proper place in the world. We heartily recommend the perusal of the articles of Prof. Narayana Row to all well-wishers of Indian education.

Consequent on the expansion of Primary and Secondary education in the State of Mysore, the need has been felt of the supply of trained teachers in large numbers. At the same time the impetus given in the Madras Presidency to the training of teachers has created a difficulty in the matter of securing admission for Mysore students in the Saidapet Teachers' College. Hence the Mysore Normal School has been reorganized so as to include a training class for graduate teachers and to raise the standard of the Elementary English Training class; the Normal Schools of Kolar and Shimoga have been improved by increasing the number of teachers under training and a new Normal School has been opened at Tumkur. The total extra cost of these proposals will be Rs. 38,355 and the number of teachers under training will rise from 254 to 440. The Government of Mysore is alive to the fact that "the number to be trained under the proposed scheme is still insufficient for the needs of the Department. The Inspector-General will be requested to consider the advisability of having Normal Schools in at least two places

The training of teachers in Mysore State.

more and 'submit proposals therefor. In the meanwhile arrangements may be made to hold vacation classes giving short courses of training." While we commend the solicitude of the Mysore Government to extend largely the means of the training of its teachers in their professional work, we feel bound to suggest that the training of graduate teachers may be separated from that of undergraduate ones by the creation of a separate Teachers' College for the former, instead of keeping the College as an appendage of the Normal School. The kind of training superior teachers have to undergo is quite distinct from what is wanted for lower ones. The latter require, besides instruction in Pedagogy, a course of general instruction for a period of two years, as they receive in Madras Training Schools, to fit them for their work, because the general education of the average High School man is very restricted in scope. It is therefore necessary that the organization of the Normal School should be conceived on lines quite separate from that of the Normal College.

When a College of Commerce was proposed in connection with the Madras University, it was laughed out of the Senate by the very people who are fond of pointing the finger of scorn at the University graduate who would rather become a Government clerk than a business man. But unless a young man's attention in his educational career is turned to business studies, we cannot

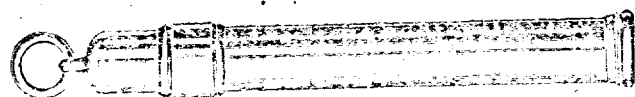
Need for a College of Commerce

conceive how he can be expected to turn to commerce as a profession. Bombay University not only possesses a College of Commerce but attached to it are three scholarships, called "The Mangaldas Harivallabhdas Commerce Scholarships." The endowment for these scholarships is Rs. 17,000 in 3½ per cent. Government Promissory Loan Notes; the amount of each scholarship is Rs. 15 per mensem and its object, the encouragement of the study of commerce among the Hindus. It is futile to expect our young men to turn to commerce as a career unless their education fits them for it. As Lord Lytton presiding at the inaugural meeting of the Public Schools Careers Association remarked, it often happened to University men that they found at the end of their college work that they were really not fitted for any special walk in life. "No public school or University man is perfectly qualified to enter the commercial world, and something is wanted beyond character, this is certainly given by education. If a house must be built it must not only have foundations but also a wall that corresponds to University education. After the wall has been erected a roof must follow, and the true roof can only be put on top of University education by a business training." If the Madras educational authorities are really anxious to fit pupils for a business career, the establishment at the Presidency town of a really efficient college of commerce on the lines of the one at Bombay is a crying want, as a complement to the too literary education which alone is now available to young men.

We acknowledge the receipt of a copy of an extract from a G. O. Edl. Dept. requesting the D. P. I. to issue orders instructing the authorities of educational institutions to forbid smoking by boys on school premises or playgrounds. We think this recognition of the evil prevailing among the school and college students and the passing of the order by Government comes not a day too soon. Smoking is one of the evils which, though not owing its origin entirely to the hostel system, may be said to be spread and promoted by it. The younger boys learn the habit by imitation from the older ones thinking that they become fashionable thereby and in ignorance of its injurious effects. The prohibition of smoking in the school premises and on the play-ground does not, however, go to the root of the evil. The tobacco habit once contracted is exceedingly difficult to give up, and prevention is, in this as in all other cases of evil, better than cure. It is therefore desirable that the teachers in the Secondary schools should impress upon the boys the injurious effects of smoking and other forms of the tobacco habit on their intellectual, moral and physical efficiency.

Smoking however is not the only vice that boys contract from association with their grown-up companions. Another one needs only to be hinted at. The importance of cleanliness in thought, word, and deed in all matters relating to sex should be impressed upon the minds of all boys of fifteen and upwards. The attention of the school authorities is now being drawn to this subject in England. A few lessons on personal and sex hygiene ought we think, to form part of the moral instruction in the upper secondary classes.

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MR. P. SESHADRI'S 'BILHANA'.*

A REVIEW—BY THE HON'BLE DEWAN BAHADUR JUSTICE C. V. KUMARASWAMI SASTRI, B.A., B.L.

"THERE are," observes Mr. Fielding Hall, "three loves that make and keep the world: the love that binds man and woman into one flesh and soul, the love that draws families into nations, and the love that holds the world to God. Each love is justified in its own immortality. All of our life that is worth living is the expression of one or more of these loves. All our religions are the attempts to explain them, all our hopes are in their immortalities." He might have added

* A Romance adapted from the Sanskrit. (Srinivasa Varadachari & Co. Price 12 as.)

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that all true poetry is but their expression. The literature of every nation affords examples of fine poetry which has its origin in the desire of the poet to voice a great joy or a deep sorrow and the lives of several great poets have been moulded by a strong master-passion which while binding to earth uplifts them to heaven and in concrete beauty seeks to find abstract ideals and the resurrection of the fairest past, the perfection of the present and the promise of all the beauty that is to be. The loves of Eloisa and Abelard, Petrarch and Laura, Dante and Beatrice, Swift and Stella and the Brownings are familiar to most students and who can say that the world of letters is not richer by their loves? Turning to Sanskrit literature every one is familiar with lines which while rendering deep emotions with great beauty are almost tantalizing in their absence of any detail whereby light is thrown on the life of the poet. Of the few exceptions that one comes across is the "Bilhaniyam" in which is set out the love of Bilhana for his fair pupil which very nearly cost him his life. Several versions of this story are current in India and though differing in detail are similar in design. Those who have read the story in Sanskrit will have been struck with the soft and haunting beauty of the poem, and its richness which though sometimes too full

for modern readers, enshrines exquisite touches of grace and feeling. The finest part of the poem is where the poet, face to face with death, seeks consolation in the memory of a great lover and "binding on his heart the wings of memory" voices love's dreamy recollections.

Mr. Seshadri's translation, "Bilhana" deserves something more than an ordinary welcome. It is not merely a translation but a poem that deserves to be studied for its own sake. There are, it has been well observed, three classes of readers whom the translator must have in view. There is the general reader for whom the perfect translation is one that does not suggest an original, the scholar to whom the original is a joy and pride and whom it is impossible to satisfy and the young student to whom the original is part of the riddle of the painful earth and who is thankful for small mercies. We are sure that Mr. Seshadri's rendering of the original will satisfy all the three classes. It is animated with airy narrative and adorned with images of great elegance and beauty. The author has a flowing and graceful style which while possessing all the richness of a fine command of language never degenerates into a merely affected jingle of words. The author is equally at ease whether he is simply narrating facts, describing physical beauty or expressing emotions which owing to their intensity or pathos require delicate and judicious handling. The description of the king's daughter:

* * * the lovely child
With whom her parents' wish was ever law
A paragon of beauty, sweet beyond
All human praise. She blossomed into youth
The fairest flower that grew on earth; her speech
Was rapturous song and like the gentle swan
Her gait, her eyes of wondrous lustre bright

Like those of fleet gazelles that roam the woods;
Her queenly bust bespoke a noble maid
Of mighty lineage, the lips of rose
Enclosed a pretty mouth which often oped
In dimpled laughter, gay and free. The face
Shone like the full orb'd moon and curls the waves
In gentle motion coyly bent anon
To kiss its grace

is not only fine writing but expresses with accuracy the ideal of feminine beauty which finds expression in Sanskrit poetry, and reminds one of the passage in *Meghaduta* where Kalidasa has crystallized in one sloka the Hindu ideal of beauty, when he describes the wife of the Yaksha.

The deliberations in the Darbar Hall of the King are rendered with spirit and vigour and the quest of the King for

The blessed race of poets lyric souls
Who could enrich my daughter's mind
With song and art

* * *
is rewarded by Bilhana being introduced as the person who could make the princess as cultured as she was fair. The lines introducing Bilhana on the scene are well worth attention: The assembly

Know a noble bard whose soul is song,
Bilhan, divinely fair in form and mind,
Monarch of poets, dreaming in his sphere
Of golden fancies, first among his line
Of craftsmen. Spring is sweetest in the year;
The jasmine in the world of flowers; flight
Is speediest and aim the most devoid
Of fault in arrows blooming on the crown
Of Kama's quiver; fragrance draws its breath
In finest essence from the musk; the gift
Of speech is blazoned forth in matchless form
When called to pour its rays of scorching light
On error prest with reason's show; man's life
Is happiest and most envied in youth;
His heart most nobly blessed with woman's love;
With equal truth be it assured the world
Of poesy knows no name of greater might
Than Bilhan's.

* * *

The poet rich in learning and with a form "of tempting beauty" is duly installed as the teacher of the princess and a pious fiction is resorted to in order to prevent their falling in love. The master and pupil met without looking at each other and while her mind was enriched with all the polite arts and scenes, her heart was not awakened to anything deeper than respectful wonder at the exhaustless treasures of her preceptor's mind. Unfortunately Nemesis follows deception however innocent. The occasion was in autumn when the glorious "Sarat Chandra" so beautifully described by Sanskrit poets compelled the poet to burst into a hymn to the moon.

* * * Queen of light

Touching the eastern skies with rosy bloom.

The author's lines are remarkably faithful to oriental ideas and though too long for reproduction here will well repay perusal both as showing the author's command of an elegant and ornate style and his power of adapting western diction to eastern modes of thought.

The lovers meet and the first overflowings of their joy and artless love are represented with all the fine colour of truth and poetry. The anger of the father, the noble spirit of his daughter who is willing to bear all the blame and all the punishment and the stern judgment dooming the lover to an ignominious death are set out in poetry which in vigour and pathos leaves little to be desired.

The lover's lament and his attempts to live in the dreams of the joyous past while on the brink of eternity are unfortunately abridged in the poem and this is probably the only quarrel we have with the author. The fear of treading on ground which Sir Edwin Arnold trod in his *Chaurapanchasika* is probably

responsible for the author's abridgement but the public who have read the poem up to the point where the incident is touched would have gladly welcomed a little more. The plea of Bilhana as we find it in the original is one which if once read can scarcely be forgotten. It is a plea sometimes tranquil and sometimes passionate but always eloquent and full of pathos. The situation naturally moved the "hardened minister who was there to guard the hangman's work" and he adds his entreaties to those of the queen, and the end is in accordance with the fitness of things and the lovers,

Past all the stormy seas

They found a haven lit with perfect bliss.

We have come to the end of the book and cannot close it without congratulating the author on his performance. The whole poem while maintaining a high level of beauty and interest contains passages where the harmony and shifting brilliancy of coloring, rich with images of oriental splendour remind us of the witchery of the original. We are sure that the book will be widely read and more widely appreciated and hope that the present work will only be the first of a series where oriental themes will be handled with all the mastery and delicacy of touch of a true poet.

CHRISTINA GEORGINA ROSSETTI.

The Second Great Victorian Poetess.

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(Concluded from page 484).

It only stunts hope which might go higher and turns one's "garden-plot to barren mire." But as she says in *Pastime*,

"Better a wrecked life than a life so aimless,

Better a wrecked life than a life so soft."

Let us learn from the sad end of the ambitious "large-souled frog," in *A Frog's Fate*, crushed to

death on the hideous highway for his leaving his old familiar byeway, and from the story of the "philosophic bear" in *Brother Bruin*, who taught a good lesson to his hard-hearted master, the important lessons of contentment and sympathy to all creatures.

Turning to Christina's devotional poems of this period, we notice the same yearning for Heaven we traced in her early devotional poems. *For a Mercy Received* begins a period of secret communion with God, all horror of darkness having disappeared at length. Now she realises that God is not far to seek; only she is weak, her faith is weak and her heart is weak. In *Martyr's Song* we are led to a vision of those blessed ones who "lean over the golden bar," with open arms and hearts of love, of the Son of God "the Lamb of God for sinners slain," and "of God Almighty, God three in One." And we are told that if Satan is strong, Christ is more strong and

"Be it flood or blood the path that's trod,
All the same it leads home to God."

With exceeding humility she asks God to give her *The Lowest Place* or if that is too high, "one more low"

"Where I may sit and see
My God and love Thee so."

In *Who Shall Deliver Me*, the "I" desires to be freed from itself, for the "I" forms to itself a clog, whatever road it takes. God alone could free the homeward-bound "I" from the world-attracted "I". So in *In Patience*, the "I" waits, trusting in God who is the guide on the "thorny road" to heaven. *By the Waters of Babylon* a second poem written in 1864 is far more vigorous and penitent than the first. *Despised and Rejected* is a very thrilling poem treating of the self-abnegation of an individual who stubbornly refuses to open the door to a person who, with hands and feet and face bleeding, brings grace to that forlorn soul, and asks the door to be opened, for

"My heart doth bleed for thee."

Christina's *Behold I Stand at the Door and Knock* is neither so moral as this nor so self-tormenting. Beside this poem Mrs. Browning's "The Poet's Vow" is weak in sentiment and in style. As *Weary in Well-doing* shows indeed rightly, the human mind and the Divine Will often do not go together; still to trust in God and leave the final decision to Him is best. There is a fine touch of envy at the sight of the "golden-winged, silver-winged" birds journeying to Paradise in *Birds of Paradise* following as it does closely upon *Weary in Well-doing*, the two being composed within a month's time. The pitiful appeal to God in *Dost Thou Not Oare* gives great relief since God at least promises to accept her fainting heart, though it should be "to-morrow." The assurance is doubly reassured in the words of God,

"Did I not die for thee?"

Do I not live for thee? Leave me to-morrow."

Contrast with this kindness of God to a person who loves Him, His saying "I know you not" to them who, when called by Him, "refused to know" Him. The last two lines of *Young Death*

"The strong shall rise more strong,
And the young younger"

before God, are very inspiring. In *Mother Country* Christina describes that country, which, though not her own country, yet is dearer far to her and may one day be her own country; she describes also the ideal life there and says,

"And if that life is life,
This is but a breath,
The passage of a dream
And the shadow of death."

A *Christmas Carol* which opened the series of Devotional Poems in the collected volume of 1875 is worthy of the place given to it there. It praises the exemplary simplicity of God when He incarnated himself on Earth as "The Lord God Almighty Jesus Christ," and teaches how

there is a grandeur in simplicity, which is not found in all the display of our fashionable times. In *Wrestling* Christina shows to God how He extended His grace to Abraham, Jacob, Elias, Jonah, Nineveh, Peter and the Son of God Himself when he prayed in the garden, and says "give us strength"

"To hold Thee fast until we hear Thy voice,"

"To hold Thee fast until we see Thy Face."

The Master is Come and Callest for Thee is interesting as showing the various relations of God to the human being. God is to human being as father to daughter, as master to disciple, as monarch to subject, as Lord God to creature and as Bridegroom to Bride. The human being must wait on Him as a daughter, must learn of Him as a disciple, must follow Him as a subject, must fall adoring Him as a creature, must soar with the seraphim as a bride. In *When my Heart is Vexed I will Complain*, God gives proof of his love for humanity by instancing his journey from Edom at great self-sacrifice for the sake of man, and his crucifixion in sight of men and angels for the sins of men, and exhorts His creature to love Him, with no distrust in His returning the love. *Saints and Angels* speaks of the life of Paradise and says,

"This life is but the passage of a day,
This life is but a pang and all is over,
But in the life to come which fades not away
Every love shall abide and every lover."

In this poem she says further,

"The road to death is life, the gate of life is death."

If death is valuable as being the gate of life, life is equally valuable, since it is the road to that death which is the gate of life. *Patience of Hope* says that all things die, save only God "who dost remain the same to all eternity." In *I Will Arise*, the "weary and weak and downcast" soul makes up its mind to arise repenting and in pain, and turn to God for a guide on the path to Heaven. The same idea is present in *For Thine Own Sake, O my God*, and in *A Prodigal Son*. In

Until the Day Break the "toil-wearied weepers" are comforted by The Sower who knoweth best, by "The Lord of the harvest" who knoweth the first and the last, and are told,

"O my toilers, my weary, my weepers,
What ye have, what remaineth, hold fast,
Hide in my heart till the vengeance be past."

Of Him That was Ready to Perish is an appeal to God to call love to Him, and give it a place, "youth and hope" having been buried, only love having no place "to lay its head." God has said "come to me and I will give thee rest." The heart in "desperate pain" is now ready to go, and wants God to say "come to me." The short piece, *The Descent from the Cross* is very pathetic and sincere. The glory of Christ's mission of love on earth is praised in *It is Finished*. In *Take Care of Him*, God asks the bride if she loves Him, and she assures Him that she loves Him, with heart brim full of love of every brother man, and in prayer, in toil, in earthly loss, in a long-carried cross. The long poem *A Martyr* is more vigorous than her *Martyr's Song*. There is a note of personal emotion in the lines,

"Behold me where in agony I stand
Behold me no man caring for my soul
And take me to Thee in the far-off land
Shorten the race and lift me to the goal."

In her last years, Christina wrote three excellent *Christmas Carols* in praise of Christ "Love's free sacrifice," and a fine lyric *Love is Strong as Death*. A *Hope Carol* is indeed very hopeful in its tone, seeing the time is near for gaining the heart's desire. There is a distinct tone of inward rejoicing in *Yea I Have a Goodly Heritage* and *A Candlemas Dialogue*, which grows into a solemnity in *Mary Magdalen and the other Mary* and a call to the Master to reap what He has sown. The harvest time has approached. *The World—Self-Destruction* may be taken to be Christina's adieu to a world, which is but a vain shadow, a hollow thing, a lie, a vanity, tinsel and paint.

"Toll, bell, toll" says Christina, for "hope is flying, sighing from the earthbound soul," and "life is sighing, life is dying," the soul sighing for Jesus alone, Jesus who is "all." The "tomorrow" for which she has been long sighing and panting is at last come;* and under the heaven that "overarches you and me and all earth's gardens and her graves, †" she is

"Sleeping at last, the trouble and tumult over,
Sleeping at last, the struggle and horror past,
Cold and white, out of sight of friend and of lover,
Sleeping at last."

In a dreamless sleep locked fast, she is realising what she only imagined in her poem *Somewhere or Other*;

"Somewhere or other there must surely be
The face not seen, the voice not heard,
The heart that not yet—never yet—ah me
Made answer to my word."

An oriental philosopher has written that "there is no cure for desire, no cure for the love of reward, no cure for the misery of longing, save in the fixing of the sight and hearing upon that which is invisible and soundless." Christina fixed, as we have noticed in the foregoing pages, her sight and hearing upon that which is invisible and soundless; and she was cured of the maladies of the soul mentioned above and she attained life eternal in the sight of God and in the company of His angels and saints. The same philosopher writes that four conditions are essential for a human soul to be qualified to journey on the path to Heaven, so beautifully described by Christina in her poems. They are (1) the obtaining of the use of the inner senses (2) the conquering of the desires of the outer senses (3) the conquering of the desires of the individual soul and (4) the obtaining of knowledge. Christina fulfilled all these four conditions eminently and was therefore fit to walk on the path which leads

* To-morrow.

† Heaven overarches.

to Heaven, as will be presently seen from her sonnets.

Christina Rossetti, says Richard Garnett* "had also a special vocation for the sonnet, and her best examples rival her brother's, gaining in ease and simplicity what they lose in stately magnificence." Naturally she had the first impulse to this side of her activity from her distinguished brother Dante Gabriel Rossetti, whose name "stands out from all others since Wordsworth and Mrs. Browning, like a pine tree out of a number of graceful larches," in the department of sonnet literature.† But in her achievement in this department, however, Christina has some new characteristics which make her worthy of special study as a sonneteer. Though her purely lyrical poems are much larger in number than her sonnets, of the latter she has left a considerable number, so that her sonnets by themselves form one grand achievement of her literary genius.

In formal structure, Christina conformed to her brother's principle of building the octave on two rhymes, generally *abbaabba* being the order observed, and varying the sestet rhymes, generally preserving, however, two or three rhymes only; Thus she, like her brother, freed herself from the strict rules of the Petrarchan form. But both she and Mrs. Browning followed the Miltonic principle and made the sonnet a whole with no break at the 8th line, though Christina alone generally came to a full stop at the end of the 8th line. By doing so, both Mrs. Browning and Miss Rossetti produce in their sonnets a sense of spontaneity and emotion, the two essential conditions of all sonnets.

In regard to matter it is observable that, while Shakespeare in his sonnets spoke of nothing but love and friendship, and these not of a high order, while Wordsworth embodied only a part of his

* Dict. of Nat. Biog. Art. C. G. Rossetti Vol. 49.

† Wm. Sharp, "Sonnets of this Century."

philosophy of nature and society in his "Sonnets on the River Duddon" and "Ecclesiastical Sonnets," while Mrs. Browning in her sonnets presented us only with a study "of a human heart as it is affected by the passion of love,"* and while Dante Gabriel, "one of Love's Lovers"† in his sonnets betrayed "a languid surrender to the physical joys of love,"‡ Christina alone in her sonnets is characterised by a "note of self-sacrifice," turning her back on material pleasure, and she alone expounds in her sonnets a high and complete philosophy of life, not hitherto dealt with by any one in this form of composition so successfully and so perfectly.

Tasso and Leonora describing the "glorious vision" of Tasso's imprisoned soul, *The Rose*, a fine address to that "flower of flowers" decreed by God "to gladden earth and cheer all hearts below," *Immales* bearing on an incident in Maturin's "Melmoth the Wanderer," the beautiful and descriptive brace of sonnets entitled *A Portrait* already referred to, the sonnet on *Lady Montrevel* a personage in Maturin's "The Wild Irish Boy," the sincere and admiring sonnet *On Keats* whose name she says shall be "a fountain of love" in every humble heart that sings, *In An Artist's Studio* referring to Miss Siddal, Dante Gabriel's wife, on whose face Dante "feeds" by day and night, *In Progress*, in part a self-descriptive sonnet, *Once for All*, *Autumn Violets*, *An Echo from Willowood*, a good "In Memoriam" of the shortlived connection of Dante Gabriel and his Beatrice Siddal, *A Wintry Sonnet*, the sonnet on *Cardinal Newman* the "champion of the cross," and the stirring sonnet *Babylon the Great* are all excellent examples of Christina's sweetness of disposition, clearness of thought and power of expression. Specially appealing to us are the *Love-Sonnet* prefixed to the volume of 1881 in dedication to her mother, her "first love" on

* Encyc. Brit. "Mrs. Browning." G. B. Smith.

† Walter Pater. *Appreciations*, D. G. Rossetti, p. 235.

‡ A. C. Benson. "Rossetti," p. 135.

whose knee she learnt love-lore that is not troublesome, and the *Valentine* for 1882.

Excepting *Tasso and Leonora* and *The Rose* the first sonnet she wrote at seventeen, *Wishes*, reveals her early desire for solitude, so essential for the growth of one's inner consciousness. This desire is supplemented by a desire for mental calmness in the *Sonnet from the Psalms*. About this time she wrote fourteen *Sonnets to Bouts-rimes*, a favourite exercise with her two brothers at this period. The series begins with *The Last Answer* that "love and hope are fallacies," and passing through an analysis of the "ills of life," the horrible "Plague" sonnet and "Vanity Fair," through life, a weary school and a blank, ends with the waking from sleep and finding that "one new creature had love for me, and others spite."

The Whole Head is Sick and the Whole Heart Faint, *Vanity of Vanities*, *One Certainty*, all these prove the preacher's saying that "all things are vanity," for "this earth changeth and is perishing." A note of self-possession runs through the sonnets *Two Pursuits*, *After Death*, *Life Hidden*, *Remember*, *Endurance* and *Two Thoughts of Death*. A realisation of the vanity of things worldly causes in one a growing desire for rest, evidenced in her sonnet *Rest* and the two sonnets *There Remaineth therefore a Rest for the People of God*. In *After All* she says there is "another hope, another love," which one must learn, and *Who Have a Form of Godliness* shows how one must find "good in midst of ill," trusting in God's will which "alone is sure and best." In *A Pause* the poet's eagerness for "the air of Paradise" feeds her imagination for a while. Those who say "that the world is fair, in spite of the old Fall"* may well read Christina's sonnet on *The World* which, exposed "in all the naked horror of the truth," is a veritable fiend, and not a friend to whom one could entrust one's soul. *A Soul* stands in marked contrast to this. If we realise the underlying sentiment of these two sonnets we can

* *A Fair World though Fallen*.

rightly understand *Dead before Death*. Her true sentiment is expressed in *Zion Said*,

"I am sick for home, the home of love indeed
I am sick for Love that dearest name for Thee."

In *Acme* she bids her unforgotten sorrow go sleep awhile, but soon it wakes and stirs the slackening fire. *A Triad* shows the futility of earthly love and *For One Sake* the uselessness of all "wars and rumours of your wars," and the poet's soul goes to dream "of her the imperishable bride." *From Sunset to Star Rise* expresses the deep affliction and self-renunciation of Christina's mood at this time. The three sonnets under one heading *They Desire a Better Country* and the quartett of sonnets entitled *By Way of Remembrance* afford a thorough study of the poet's mind. In the former the call comes from the land of Love,

"Follow me, hither, follow, rise and come."

In the latter the poet speaks of the glorious Resurrection Day, that "day of days" when all shall meet together in mirth and all shall be love. The two together form an ideal conception of the life beyond. The pleasant conception of Love in *Venus's Looking Glass* contrasts strikingly with the tone of disappointment in *Love Lies Bleeding* and in *Cor Mio* and *To-Day's Burden* which says,

"Arise, depart, for this is not your rest."

The growing restlessness of Christina's mind accounts for the "sonnet of sonnets" entitled *Monna Innominata*, which the author of the "Portuguese Sonnets" in the very circumstance in which she was placed could never have thought of, though she may have lost "a niche beside Beatrice and Laura." All that makes for the difference between Mrs. Browning and Miss Rossetti as women in the world, forms also the difference between their representative works, the "Portuguese Sonnets" built on "fancy" and the "Monna Innominata" full of "feeling." The mottoes selected by Christina for these sonnets from Dante and Petrarca are very striking, especially "Life flees, and stays not an hour"

in the 10th sonnet, and "we will direct our eyes to the Primal Love" in the 13th and "His Will is our Peace" in the last. The poet says,

"Time flies, hope flags, life plies a wearied wing," in the 10th sonnet,

"And therefore I commend you back to Him
Whose Love your love's capacity can fill,"

in the 13th sonnet. An excellent description of love is given in the 4th and 7th sonnets. Love, says she, knows not "mine" or "thine"; love knows not a dividing sea and builds the house on rock and not on sand. The last lines of the series are very fine:

"Youth gone and beauty gone, what doth remain?
The longing of a heart pent up forlorn,
A silent heart whose silence loves and longs."

Beside these touching lines of Christina's, Mrs. Browning's last lines of "Portuguese Sonnets" are very feeble, producing a transient feeling of pleasure, leaving no permanent effect on the mind of the reader as Christina's lines do.

More touching than the "Sonnet of Sonnets" is the "Double Sonnet of Sonnets" entitled *Later Life*. The last but one sonnet of this series containing a "forecast of death," says her brother William, truly describes Christina's "last days and hours in December 1894" very nearly. In this the unrefreshed and overburdened soul, girding sackcloth and rending the heart, looks up to God, all "weary of to-day" and recognising that

"Love is the goal, love is the way we wend,
Love is our parallel unending line
Whose only perfect Parallel is Christ,
Beginning not begun, end without end,"

asks for forgiveness of sins and eternal comfort from Him who alone is the "Life of Hearts and Light of Eyes." The soul next finds that even on earth there may be a Paradise,

"Where dead have come to life and lost been found"

Where Faith has triumphed, martyrdom been crowned,
Where fools have foiled the wisdom of the wise,"

and that earth is still promising, for

"From this same spot the dust of saints may rise,
And the king's prisoners come to light unbound."

But the soul finds also that on this earth there is nothing but appearance and that the glories of God lure us "upward from this world of mire," making us mount to Him "in love's perpetual fire." Christina then draws a lesson from the fall of Adam and Eve, prefacing the same with a sonnet on shame, which, she says, though "a shadow cast by sin," may yet be "a glory and a grace," since

"Shame gives back what nothing else can give,
Man to himself—then sets him up on high."

Sonnets 14 and 15 are excellent studies fit to supplement Milton's great epic, which ended leaving to us the problem of the relation of Adam and Eve after they left Paradise and entered the earth of mortal men. Christina believes that they still loved each other after leaving Paradise, because of the hope that though "to-day we fall," yet "we shall rise again," for

"Love pardons the unpardonable past."

Next the soul takes a glance at the seasons and chooses to follow the solitary bird of the night into the skies, preferring it to all "the hundred thousand merry-making birds" of the day. The soul looks next at the distant lands and settles its eye on the land which is beyond all lands, and in this it follows the wisdom of the wise who "send their hearts before them to Dear Blessed Heaven, despite the veil between," for this life is "blank of rest and of substantial gain" and "Death's self it is;" Therefore the soul prefers death, not in dream, but "in the literal truth" for the absent friend who in life is far away, in death may be brought near. Here we are reminded of

Christina's line in the 3rd sonnet of the "Monna Innominata,"

"To die were surely sweeter than to live."

These two series of sonnets together with the three sonnets entitled *The Thread of Life* contain the whole of Christina's philosophy. The "inner solitude" makes the "I" pent up in its own prison, realise that the "I" is even "I."

"I am not what I have nor what I do;

But what I was I am, I am even I."

This self-consciousness of the "I," this knowledge that

"Myself is that one only thing

I hold to use or waste; to keep or give," leads to the final deliverance of the "I" into the hands of the King of the Universe.

With all the hopelessness of life, we still should rear hope, for

"Surely while life remains hope lingers still,

Hope the last blossom of life's dying year,"

as Christina says in *Touching Never*, and we should ever sing of Love, which, though to many has looked "a root of bane" is to the poet's mind "a root of balm."* Love is one in the threesfold panoply of Might† viz., Grace, Will, Love which alone survive our race with Time.‡

In a number of sonnets scattered among her devotional poems, self-conquest is the key-note that we observe, as a consequence of the sincere feeling of the uselessness of life and of the hope that lies only in death, which opens the gate to that "sweet long life, immortal, ever young"§ Life having become "scarce tolerable,"§ she finds solace in the words of Jesus, "Take up the cross, and come and follow me."§ and off she starts to that land where is no night or darkness, where

* *At Last*.

† *Resurgam*.

‡ *Songs for Strangers and Pilgrims*, Poetical Works, p. 134.

§ *Ibid* p. 133.

§ *Ibid* p. 127.

all creation sings its hymn to God, the very fountain of Love, nay, even the very embodiment of Love, of Love which is "alone the worthy law of love," and "the motive of all things that move harmonious by free will without constraint."* The two sonnets *Faint yet Pursuing* are very forcible utterances of the soul starting with determination on the Path to Heaven, to reach the goal of Love, leaving Hope, Charity, Faith, all behind. With such determination in her last days, Christina's soul sets its face and goes

"Faint yet pursuing, home on tireless feet,"

to

"A lovely city in a lovely land,
Whose citizens are lovely, and whose King
is Very Love."†

This Invisible Love whom, through a long weary life, Christina sought, has been very piously described and invoked in her numerous devotional poems and sonnets. These poems and sonnets testify to Christina's strong faith in God and to her ever-present belief in the Redemption of Humanity by the Grace of the Almighty who sent His Son to die for us and to relieve us of our sins. In *All Saints and Not Yours But You* written in her earlier years, Christina shows that the best offering to God is Love; this Love, she says, varying the image, is His banner. In *Out of the Deep* she prays for God's mercy, as also in the sonnet beginning,

"Have I not striven, my God, and watched and
prayed?"

written in 1863. In *Come unto Me* her heart is dejected, but soon recovers, for Christ calls, Christ who is "all in all." *If only, After Communion* and *Why* reveal a bright prospect. *Behold the Man* is very powerful, specially the last two lines,

"Not to send peace but send a sword He came,
And fire and fasts and tearful night watches."

* Ibid p. 162 *Quinquagesima*.

† Ibid p. 208.

As in *Behold a Shaking* we find we are His flock, ready to obey Him, in the three sonnets entitled *If Thou Sayest, Behold, We Know it Not* we are humbly praying for Christ's pity. *Out of the Deep Have I Called unto Thee, O Lord* is the general heading of 17 very exquisite sonnets full of devotion and prayer to the Lord. Christina says,

"We turn to Thee; as on an eastern slope
Wheat feels the dawn beneath night's linger-
ing cope,
Bending and stretching sunward ere it sees."

Again she says, we shall mount up, as "sparks fly upward," trying to attain "their fountain flame." In the last two of these sonnets, Christina's feeling grows very intense. When we remember that most of these sonnets, as also most of her devotional poems generally were written in her later years, these utterances of the poet have special significance. In *Gifts and Graces*, a series of devotional poems, we also find some excellent sonnets, written in her later years. God's treasure above, we are told, is threefold, Wisdom, Rest, Love,—and lo! the whole is Love" again. All experience says,

"My God doth all things well."

This Love, before which Fear, Faith, Hope, Prudence, Obedience, Humility all fall back in the journey to Heaven, is described exquisitely in the sonnet *Trinity Sunday*. We may instance a number of sonnets more in which Divine Love is praised to the full measure of Christina's pious heart. The following is her conclusion,

"Beloved, yield thy time to God, for He
Will make eternity thy recompense;
Give all thy substance for His Love, and be
Beatified past earth's experience.
Serve Him in bonds, until He set thee free;
Serve Him in dust, until He lift thee thence;
Till death be swallowed up in victory
When the great trumpet sounds to bid thee
hence!"

In the short span of life given to her, Christina Rossetti practised this advice to the best of her ability and we may well believe that

The soul that Heaven's Love to enjoy doth sit
In patience waiting for the Judgment Day,
Hastening from earth to flee through restless
life,

To Seat of Grace by Faith is led with Hope.

When we add to these, Christina's devotional series as *Songs for Strangers and Pilgrims, Some Feasts and Fasts, Divers Worlds—Time and Eternity, New Jerusalem and its Citizens, Christ our All in All and Gifts and Graces*, we may say with Mr. Saintsbury that Christina Rossetti is "one of the great religious poets of the world," and that she holds indeed a place beside "Herbert, Vaughan, the converted Donne, Crashaw, Father Southwell, the divine Herrick, Cardinal Newman," as Mr. Lionel Johnson says.*

Sing-Song, a Nursery Rhyme book, shows Christina's life-long love for children and Anne Gilchrist says that its brief lyrics are "as sweet and spontaneous as a robin's song,"† quite suited to children. We have already said that Christina was capable of writing Italian verses as easily as English ones. Here we may note‡ that it is not only her brother William that speaks highly of her work in the Italian tongue, but also a literary Italian who considers that her Italian verses "assimilate to native work more nearly than those of Dante Gabriel Rossetti."||

From Christina's hands we have also a number of prose works which are all devotional. *Time Flies, Commonplace and other Short Stories, Annus Domini, Speaking Likenesses, Seek and Find, Called to be Saints, Letter and Spirit, The Face of the Deep* and *Maude* form a sufficiently large collection to judge of the author as a prose writer. As

* "The Academy," July 25, 1896.

† Bell, p. 262.

‡ Preface to "New Poems" 1896.

|| Poetical Works, Preface.

we have no space to review these works here in detail, we may content ourselves with saying that "it is noteworthy not only that one family should have produced two eminent poets—Dante Gabriel and Christina Rossetti—but that these great poets should have left behind them some very noble imaginative prose work, small though the quantity be."*

CONCLUSION.

Christina Georgina Rossetti died on the 29th December 1894, aged 64. In "A New Year's Eve" which Mr. Swinburne contributed to "The Nineteenth Century" of February, 1895, he thus praised the woman who had passed away with the passing year.

"A soul more sweet than the morning of new-born
May

Has passed with the year that has passed from
the world away.

A song more sweet than the morning's first-born
song
Again will hymn not among us a new year's day."

We cannot suppose that this was any exaggeration, though "all generous companions of artists, authors, philanthropists, men of science are, or ought to be, societies of mutual admiration."† If any one is competent to express an opinion on poems and poets, it is Mr. Swinburne, who, while he could preserve "rigorous silence as to what he deems below the requisite standard, or on occasion resolute denunciation of it," could bestow "gorgeous munificence of praise where he sees it to be due."‡ So then we may take it that this praise of Christina above quoted was her due. That it was her due is confirmed by what Mr. W. M. Rossetti says in his Preface to "New Poems" of Christina, published posthumously in 1896. He says, "there was an immediate, a very

* Bell, p. 272.

† Oliver Wendell Holmes, "Autocrat of the Breakfast Table," I.

‡ Fam. Let. of D. G. Rossetti, Vol I, p. 289.

wide and an exceedingly strong outburst of eulogy of her in the public press both as woman and as poetess." Let us see then what her special merits were as woman and as poetess.

The special merits of Christina may be said to be her modesty, humility, self-renunciation, and universality of sympathy. We have referred to these traits of her character in earlier pages, and we need only say here that while women are generally self-assertive to a degree, Christina had, early in life, conquered her Self; and this was what constituted the whole noble trend of her life. She lived as a servant of God and died as a servant of man. While Mrs. Browning, George Eliot and others were anxious to establish women's status as distinct from men's, Christina's sole aim through life was to sink individual differences and realise that all are servants of God, equal before Him, for she says she rightly in one of her poems,

"And since there is but one
Heaven, not another,
Let us not close that door
Against each other; *"

This fundamental equality of all men, she preaches in *A Royal Princess* besides other poems, and in her prose story *Pros and Cons*.

Self-renunciation means the realisation of the oneness of all existence; and universality of sympathy naturally follows from this. Love to human beings is the necessary concomitant of Love to God. Love and Service were indeed the mottoes of her life. In her sonnet on *Endurance* she says,

"Good deeds are many, But good lives are few."

And we may confidently assert that of the few good lives to be met with in this world, Christina Rossetti's was one. In the true spirit of Christianity, Christina Rossetti realised that the teaching of the Great Master was Love, as she says in one place

* Parted,

"Love is the key of life and death,
Of hidden heavenly mystery;
Of all Christ is, of all He saith,
Love is the Key."*

And she was through life an eminent example of this fundamental tenet of the Great Master's religion. She was in short a teacher to men and an example to women.

As poetess, her only serious rival may be said to be Mrs. Browning, the first great Victorian poetess. Both in regard to style and to thought, Christina seems to us to surpass Mrs. Browning. While the latter kept to the traditional manner, the former was among the reformers of the English poetic language, with her distinguished brother Dante Rossetti and her sincere admirer and friend Mr. Swinburne. They, says Mr. A. C. Benson, recharged "homely and direct expressions with the very element of poetical vigour."† And indeed the perfection of Christina her spontaneity, ideal conception, firmness of religious conviction and deep sympathy for humanity give her "the palm" among poetesses. Mr. Swinburne was surely not exaggerating her powers when he said,

"There is none to sing as she sang on earth, not one,"‡

for his statement is corroborated by Mr. Watts-Dunton, who says, she is "the acknowledged queen in that world (outside the arena called 'the literary world') where poetry is 'its own exceeding great reward.'"§

The language of Christina's poetry is just the language of daily life, but it does not for that reason degenerate into prosaicism anywhere. Her style deserves the epithet "grand," if as Matthew Arnold says, grand style arises in poetry when a noble nature, poetically gifted,

* Poetical Works, p. 179. *Some Feasts and Fasts*.

† "Rossetti," p. 142.

‡ "A New Year's Eve."

§ "The Athenæum," Feb. 15. 1896.

treats with simplicity or severity, a serious subject. The merits that women should possess, if they should aspire to be called poets, have been said by Mr. Gosse to be brevity, personality, and concentration. He formulates this theory in his "Critical Kit-kats," and examines Christina Rossetti from his standpoint, and is led to the conclusion that she was "one of the most perfect poets of the age," and he expects rightly that "students of English literature in the twenty-fourth century may look back" toward her as the critics of Alexandria did toward Sappho and toward Erinna.*

We have seen how, early in life, Christina realised the vanity of earthly things and learnt to turn from this world of seeming realities to that region where there is no death, and where the one bond of union is Love, Love not born and bred of earth but Love that characterised Jesus in His mission to Earth to redeem the sins of men, Love that brought together angels, saints and pure-hearted men in the region of eternal life. We have seen how this early realisation of the secret that underlies existence made her life one continuous journey of the soul from the bondage of this world to the freedom of a Higher world. She saw that the Universe was "Godlike and my Father's."† We have seen how after this finding of the Path to Heaven, her soul was ever restless, ever anxious to meet Death and pass through that gate leading to the Life of Heaven, and the Abode of Jesus Christ. We have seen how she realised and preached that the best champion in this weary passage through the short span of earthly life is Love, not the Love of which we hear so much in this world, but the Love that conquers Self and liberates Self from the clothing of this delusive world distinct from and antagonistic to the Self. We have seen how she realised that the "I" is the one and the all and that this unity of God and man, of man and man

* "Critical Kit-kats," p. 136.

† Carlyle, "Sartor Resartus" Book II, Chap. IX.

is the underlying truth of existence. She ran the race of life with Love, and Love won at last; and conquering *Amor Mundi* and journeying *Up-hill*.

"Onward and upward toward that blessed place
Where man rejoices with his God, and soul
With soul, in the utterable kiss
Of peace for every victor at the goal,"*

the individual soul gets nearer and nearer the Universal Soul, even as

"sparks fly upward scaling heaven by fire,
Still mount and still attain not, yet draw nigher,
While they have being, to their fountain flame."†

N. K. VENKATESAN.

* *Out of the Deep Have I Called unto Thee, O Lord.*
† Ibid.

PEDAGOGICAL LABORATORIES.

IF the complex problems of Education have to be solved in any practical spirit, we have to recognise the importance of institutions like Pedagogical and Psychological Laboratories. The principles of modern Pedagogy can hardly be dissociated from the principles underlying that important branch of general psychology,—the Ontogenic Psychology, for the study of the development of the child mind is the proper domain of educational investigation. Psychology has long ago adopted the methods of experiment in investigating the laws governing the mental activities and its results are capable of a mathematical treatment. From the time of Plato and Aristotle, the ideals of education, though they have varied at different times and in different nationalities, have always been determined by normative sciences like Ethics. Before we proceed to ascertain the methods of experimental investigation how far these ends can be secured or influenced

by educational measures, we have to find out the psychological foundations of these standards themselves, the individual differences of the child mind and the particular stage of development of the child at which true interest in the ethical standards manifests. It is here that the paths of Pedagogy and Psychology cross one another. Besides the whole educative process through our curricula of studies, has to be adjusted in accordance with the results of investigation of experimental pedagogy which therefore offers a test for the several educational methods in respect of their usefulness either in helping to attain the special end like Morality or Religion or the general aim of education, viz., Culture. The reason why this has seldom been done up till now is that the methods had not been perfected but yet the claims of modern pedagogy to be treated on equal terms with the other sciences are founded on the results of experimental work carried on in all the principal psychological and pedagogical laboratories.

It is obvious that so long as any branch of human knowledge does not adopt measurements as a means of expressing its results, it must remain in an empirical stage, and a great part of the defect in our present educational schemes has to be ascribed to the want of experimental stations, either psychological or pedagogical, in Southern India. The progress of all sciences is conditional on the systematisation of data derived from experimental work: and the only educational data available for the formulation of any new scheme are derived from methods of observation which being imperfect, in their character are of no scientific value. If a science of pedagogy is to spring up at all in our midst, we have first to divorce it from dogma to

which it had long been wedded and every educational enquiry ought to be subjected to experimental methods and the results considered valid, provided they are of universal application. That there is plenty of material awaiting systematic investigation is undoubted and that there is a need to depart from the old lines of study is abundantly clear. It therefore becomes imperative that experimental centres are established in all our Training Colleges and expert psychologists are appointed to give a course of practical training in experimental psychology and pedagogy to our teachers. If the Guilds and Associations of teachers could gather sufficient funds to equip a psychological laboratory at Madras and other centres, the mofussil teachers will have the opportunity of working in these institutions during the vacation; even the levy of a small fee will not chill the enthusiasm that is a characteristic of the new race. Such institutes are founded and supported mainly by the Associations of Elementary School Teachers in towns like Leipzig, Berlin, Jena and Paris, and the inspiring presence of the University Professors who are also members of these institutions does everything to sustain the efforts of the teachers at a high intellectual standard. We hear so much in these days of decadence of the teaching profession in India and the status of the teacher is not rated at its proper valuation, simply because pedagogy has not been raised to the level of science. When this is done it would become no longer possible to countenance the present method of recruitment to the educational service.

Pedagogical laboratory is not a fad any more, for instance, than practical mathematics. On the other hand the wholesale introduction of certain European methods of

teaching without a proper appreciation of the psychological conditions underlying them or any scientific justification for their adoption in India would be a downright fad. We have suffered such things gladly sufficiently long and the institution of a pedagogical laboratory which would enable us to see our educational system in its true perspective and to place it on a scientific basis, will not come to us one day too soon. It was said measurements must be introduced in pedagogy whose tabulation must suggest any alteration of the existing methods or their confirmation. By measurements I mean both physical and psychical. What is the value of physical measurements to pedagogy? The physical fitness of the child has to be tested in order to see how it stands in relation to other children and anthropological measurements will be a means to discover any physical imperfections. Apart from this, it is most desirable to periodically take stock of the physical efficiency of the children to find out if under the educational strain their bodily powers are becoming impaired in any way and if so to take precautions. Pedagogy has therefore a direct interest in the development of the child's body in as far as the training of the bodily functions is one of its legitimate tasks and it has also an indirect interest, inasmuch as the bodily conditions have a direct influence on the mental development of the child. This mutual influence of the physical and mental development may show itself in a parallelism between the two or in their almost antagonistic tendencies. Either way anthropometry is of service to pedagogy. Then there is the outstanding question whether physical development is hindered by over instruction as by admitting children to school at a very early age or by

overloading them with mental work. The most important anthropometrical measurements for pedagogy are: height, weight and lung capacity tested by the quantity of air exhaled by a forcible expiration after the deepest possible inspiration. The vital capacity is indicated by the spirometer or the chest may be measured when the lungs are full and empty and the average of the two values would express the measure of the circumference. The diameter of the chest may be measured by the stethometer. The measurements of the head refer to the circumference, length, breadth and height and are taken by instruments like Peterson's head measure or Betillon's compass or Krönlein's cephalometer, and a steel measuring tape. To detect cases of defective nutrition or of effects of illness, the pressure of the hand may be tested by the dynamometers for squeezing or for squeezing and pulling. Considerations such as these induced Sir Francis Galton to establish his well-known Anthropometric Laboratories.

"As an example of what can be easily done in these laboratories let us consider the measurement of eye-sight. Measurements would give an indication of eye-sight becoming less good long before the child would find it for himself or before its impairment could attract the observation of others. It is frightful to think of the frequent mischief to eye-sight that has been caused by the neglect at schools of the most elementary requisites to protect it from unnecessary strain such as abundance of light coming from the proper direction, and desks and chairs so shaped as to discourage a lolling or sidelong attitude by supporting the book and paper squarely before the reader. The stupid want of care in providing these essentials to eye comfort

has gone far towards converting the educated classes of Germany and the cultured girls of England into short-sighted sections of the society. When measurement shows that sight is beginning to be slightly impaired, there is probably time to hunt out and abolish the cause of the mischief before serious harm is done and an occasional small fee would be little grudged by most persons to insure so timely a warning of danger."

In addition to shortsight among our children we have to take note of the existence of colour blindness, a malady that imposes certain restrictions on the choice of professions. We can hardly afford to ignore any longer the presence of this defect in view of the fact that it affects nearly 20 per cent. of the population.

"A very large number of students have been physically tested at the Anthropometrical Laboratory in Cambridge and as the young men belong to the same social grade, we have an interesting and highly valuable series of statistics concerning what may be called the professional and gentle classes who represent as good a type physically as any class of Englishmen under existing social circumstances, can be expected to show." Professor Venn has worked up these statistics on nearly 1,000 graduates in an interesting paper in which he classified them under three heads:—

- (a) First class honour men
- (b) All other honour men
- (c) Poll men.

"There is not any remarkable variation in the physical characteristics such as height, weight, vital capacity, or squeezing and pulling powers among these three classes of men. However, in regard to the measurements, the

first class man in the tripos shows a decided superiority over the mere 'honour men' and these latter over the Poll graduates. "We find that a 'high honour' man possesses at the age of nineteen a distinctly larger brain than a 'poll' man (that is a student who takes an ordinary degree) in the proportion of 241 to 230.5 * or one that is almost 5 per cent. larger. By the end of the College career the brain of the 'high honour man' has increased from 241 to 249, i.e., by 3 per cent. of its size while the brain of the 'poll' man has increased from 230.5 to 244.5 or 6 per cent." These results of Sir Francis Galton's investigations go to establish two facts. Firstly that the relative increase of the brain capacity varied considerably during normal growth and secondly development is rhythmical, i.e., the amount of increase is not quite the same in each period but is liable to fluctuation. The value of the study of these figures lies in the fact that it is the task of every instructor to fix the general mental condition at each grade of instruction, and also the mental capacity of the child for each particular subject at each particular grade.

From the very nature of the subject it is difficult to arrive at any universally valid results because each individual child is apt to show variations in its growth, but yet the figures of child psychology and pedagogy are capable of a mathematical expression of sufficient value to authorise any new departures from the old methods that may seem desirable from a study of those figures. To come to the psychical measurements. We are not infrequently reminded that the generation

* "These figures are derived by multiplying together the maximum length, breadth and height of the head, the latter being taken from the vertex to a plane at the level of ear holes". The figures are in inches.

which preceded us possessed a higher intellectual fibre, a judgment based on no psychological data, but on merely vague impressions. In the school room, however, the case is different. If we could get accurate figures with which to compare, pedagogy would then be placed in a position to solve several problems which are at present beyond its scope. If for instance we could hit upon a method enabling every teacher in the different parts of the province to measure accurately in figures the memory powers of his pupils, we have then data with which to measure and compare the memory power at all ages of growth. If the schools have been keeping records of such measurements extending over long periods of time, we are in possession of figures which would enable us to form pretty accurate judgments whether in the following or the preceding generation, the memory was better or worse. We could then prove the value of any educational reform, say the introduction of special classes in regard to the development of memory, if before and after the introduction, a sufficient number of accurate measurements have been taken. We shall therefore, dwell at some length on the possibility of taking exact measurements of psychological values as aids to pedagogy.

In pedagogy we can only adopt the indirect measurements, viz., measuring the stimuli, as mental functions are beyond the scope of all physical instruments. Stimuli and mental functions vary directly and measurements of stimuli will give a fairly accurate measurements of functions also.

All the latest reforms in education demand a more delicate use of the eye and hand—the powers of colour and form perception on the part of the eye, and the increased delicacy of touch involving sensations of position, effort

and movement on the part of the hand, being attended to in the elementary stages. If questions such as these have to be settled on psychological basis, it will be found necessary to analyse these senses with experimental means. For instance, an investigation of stimulus and difference thresholds by means of colour discs and kinematometer will show us what sensations and at what ages they could be developed by practice. These results must inevitably lead to pedagogical problems. In regard to the sensations of the ear or the eye it is always important to determine the difference sensitivity, rather than the stimulus threshold. For instance the number of vibrations sixteen or more which may be the stimulus threshold would tell us whether a given child is musical or not: but it is more useful for practical purposes to determine how many vibrations must be added to the original note to enable the child to perceive the difference. Similarly the powers of colour perception will show themselves in the difference sensitivity. The present methods of investigating the colour sensitivity among school children are "naming and covering" methods which are too rough and ready to be of any scientific use. In order to determine the difference sensitivity for colour saturation, one colour must be changed gradually in the direction of the next on the spectrum, until a change has been observed. The question arises whether children are weaker than adults in the matter of colour sensitivity, or in regard to the naming of colours. Pedagogy will have to reckon with this fact. It would be very useful to experiment with the parents of the children, since in regard to exceptional talent of any description it would lead to important results for the theory of heredity.

Many observers are of opinion that there is a great deal of difference between boys and girls in respect to difference sensitivity and yet have we made any difference in regard to teaching? If colour and form sense have thus been investigated, we should obtain great help in reforming our method of teaching Drawing. The latest method of teaching young children to draw is to let them use the whole arm and it is supported by investigations on the internal sensations of touch, viz., movement. It would seem that the difference sensitivity of children for movement of the larger joints is comparatively greater. Hence in the elementary stages, the development of finger joints is of minor importance. It is important to bear in mind that in the experiments devised to determine the sensitivity we have not yet measured the two sensations in respect, for instance, of their magnitude or intensity but rather we have measured the relations of the two sensations to each other. Thus we come to the bearing of Weber's Law on Pedagogy. The law states "that the additional stimulus necessary to enable a subject to perceive a noticeable difference between the first and second sensations is always a constant fraction of the given stimulus." The more precisely Weber's law appears in a child, the more is his faculty of *comparison* developed, i.e., the faculty of comparing one sensation with another in regard to its quality.

We shall now proceed to the psychical complexes like perception ideas, memory, attention, feeling, volition, judgment and so forth. Spatial perceptions are a compound of the senses of touch and sight and the spatial power of the sense of touch (measured by aesthesiometres) always works with the help of the association of the visual space

ideas and the closer the two senses are blended together, the more is gained for the formation of spatial perception. Its importance in manual work, like modelling, etc., is obvious. In the case of the blind, however, who read quite as correctly and perhaps fluently like the normal children, they first of all run over with one hand the letters which are raised points and follow the other hand closely after the first. The mental image of the movement of the hand which represents the spatial visual ideas of the normal child, is associated with the touch sensations of the second. In this manner a sort of spatial sense perception is developed which accounts for their correct reading. No doubt spatial perception is always developed in all children, but there is a great difference in regard to the powers of the temporal perception. The latter is of great importance for pedagogy in determining when the historical stories and subjects like Arithmetic should be taught to children. For they are mainly based on temporal ideas, e.g., counting. Experiments on children show the presence of individual differences of temporal perceptions which would account for the failure of some children to master the intricacies of arithmetical calculations with the same degree of facility that others possess. All this refers to the purely formal side of the development of ideas and the children come to school with ideas already formed: and hence the teachers' interest to these stores of ideas which are at present investigated by the *question* and *naming* methods. But a better analysis of the child's content of ideas can be made with the help of "drawing and modelling," which incidentally throw light on the antecedents of the child, the family

history, the physical characters of the country from which he may come and so forth. It is suggested by certain physicians like Dr. MOHR that drawing can be used as a means of diagnosing the insane, and the insight into the constitution of ideas which the spontaneous drawings or modellings of children may give, can be used in perfecting our diagnosis of normal children when they enter school.

Feeling is defined "as a subjective reaction of consciousness on an outward impression" and hence the special difficulties in investigating. In the study of sensations we used the simple stimulus method which can only be indirectly helpful in the present case, because of certain physiological considerations. The methods generally employed in the psychological laboratories in investigating feelings is the so-called expression method and for purposes of measurements the experimenter employs instruments like sphygmograph, cardiograph, plethysmograph and pneumograph to record changes in the pulse, heart beat, blood-pressure and breathing. The special difficulty in relying totally on the expression method is that some children are less demonstrative than others though both may be affected equally, say by the exhibition of a touching picture, or the reading of a pathetic passage. Hence the value of the so-called expression movements in experimental pedagogy which can be easily measured with physiological instruments mentioned above.

Any attempt to refer to the higher faculties of the mind or the instruments employed for experimental purposes will easily take us beyond the limits of this paper. For a more accurate and detailed description of the subject than has been possible here, the reader

is referred to authors like Wundt, Thorndike, Schulze, L. W. Jones, Miller, Titchener and Lingendorff. Almost the entire literature is German and there are translations for English readers unacquainted with German. The object of this paper is to induce the teachers to demand for a more systematic and thorough training in experimental psychology than there is provision for at present in our Training Colleges; secondly, to induce the Guilds and Associations of Teachers over the Presidency to send out subscription lists for funds with which to equip an experimental institute at a central place where the teachers can work during the vacation, compare notes and so forth; and finally, to throw the hint that education would acquire a new power if all pedagogical discussions are founded on psychological investigations, instead of their being a descriptive account of some controversial educational method totally unsuited to the local requirements. Though education has not yet spread to some of the remote corners at least in certain areas, the test of its progress ought to be the high German standard of quality rather than mere numbers of half-starved institutions. It is time that education should be placed on a scientific pedestal

C. R. NARAYAN RAO.

THE TEACHING OF PHYSICS IN SECONDARY SCHOOLS.

II.

LABORATORY EQUIPMENT.

THE Laboratory should be a well-lighted, evenly-heated, and well-ventilated room with, if possible, a southern exposure. The room should preferably be on the ground floor to secure freedom from tremors likely to disturb delicate instruments. An asphaltum floor is desirable. For a class of 20 pupils a

combined laboratory room and lecture theatre 60 × 21 with a lobby and a preparation room each about 20 × 21 will be sufficient for all practical purposes. The dimensions noted make adequate provision for free passage between the benches.

It is not desirable that physical and chemical laboratory work should be carried on in the same room even at different times—much less simultaneously. The fumes of a chemical laboratory are injurious to physical apparatus and chemical tables are not suitable for physical experiments.

TABLES.

The tables should be of a plain type made of hard well-seasoned wood which does not warp. The table should be strongly framed with six legs. The tops should be unpolished and should be provided with stone corbels for galvanometers. A convenient size is about 32 in. high, 42 in. wide, and 7 ft. long with a top of 1½ in. thick and extending about 3 in. beyond the frame.

The tables should not be provided with drawers and cup-boards. It is not expedient to place much apparatus in the hands of beginners. Tables with cup-boards are inconvenient to work at in a sitting position. The apparatus beneath may occasionally affect the apparatus on the table. Plain tables are portable and they may be moved round better to adapt their position to the problem on hand.

An overhead suspension rail fitted with hooks and clamps for experiments with pendulums and pulleys, etc., is a useful addition to some of the tables.

Stone benches for apparatus whose accuracy is impaired by moving them about may be built into the wall. A mercury table is a

useful adjunct. If the teacher is not allowed a platform, the working benches may be arranged in tiers rising by a foot away from the demonstration table.

At least one large sink with a liberal supply of water and waste should be provided for a laboratory of 10 students. A galvanised iron tank at one end of the room filled by a Force Pump is a good substitute where there is no access to a public hydrant.

Gas should be laid on to each table where funds permit. But in Secondary Schools good spirit lamps with porcelain caps and a fair supply of *Ætna* lamps will be enough. Schools financially strong may try a gasoline installation, which is found to be cheap and easy to work.

The light may conveniently be from two adjacent sides of the room, although in some good laboratories it is from two opposite sides. The practice of allowing boys to work, some facing the light cannot be too strongly condemned. The windows should be fitted with dark blinds to provide for a dark room requiring artificial illumination.

Elaborate and highly finished apparatus has no place in a Secondary school laboratory. The chief reason for the failure of laboratories in Secondary schools is the creeping over of instruments of research into the Secondary school, bewildering the student and obscuring the main principle underlying the experiment. The discovery or demonstration of principles with cheap and simple devices must be a source of perennial interest to the teacher. Much of the apparatus required should not be above the constructive ability of an average mechanic and many simple devices can be got ready with the

help of a handy boy. A little practice in the common laboratory arts and a knowledge of the use of a few simple tools will enable the teacher to construct several pieces of apparatus much to the relief of an economical management. A word of caution, however, is necessary. Apparatus is not good simply because it is cheap or home-made. Economy of initial cost must go hand in hand with economy of thought and energy on the part of the pupil and the teacher. I may be permitted to add that good balances and reliable thermometers, and accurate scales are instruments of moral culture in that they encourage precision and pave the way for the recognition and appreciation of truth.

The receptacles should all be of glass doors to prevent a careless shoving away of things and every piece of apparatus that is out of order should at once go to the workshop for repairs. "Order is heaven's first law" and "economy is Fortune's right hand."

The teacher should hang up in the practical hall all the important Reference tables to be used by pupils in calculations.

1. Equivalents of Metric Weights and Measures in terms of Imperial Units.

2. Equivalents of Imperial Weights and Measures in terms of Metric Units.

3. Mensuration formulae.

4. Density, or Mass per Unit Volume.

5. Acceleration due to Gravity.

6. Length of Seconds Pendulum.

7. Imperial Standard Wire Gauge.

8. Melting Points and Latent Heats of Fusion.

9. Boiling Points and Latent Heats of Vaporization.

10. Co-efficients of linear expansion of Solids.

11. Co-efficients of cubical expansion of Liquids.

12. Volume and Density of Water at different Temperatures.

13. Co-efficients of Expansion of Gases.

14. Specific heats.

15. Maximum pressure of Aqueous Vapour.

16. Mass of the Aqueous vapour contained in a cubic metre of saturated air.

17. Boiling point of water at different pressures.

18. Boiling point of a solution of common salt in water.

19. Indices of Refraction relative to air.

20. Electro Motive Force of Voltaic Cells.

21. Trigonometrical ratios.

22. Tables for use with the Wet and Dry bulb Thermometers.

23. Resistances per thousand metres of wires of different diameters of Manganin, Copper, Platinoid, and German Silver.

The following model graphs drawn neatly on a large scale may also be hung up:—

1. Inch and Centimetre Graph.

2. Pendulum curve.

3. Relation between l and t^2 .

4. Boyle's Law.

5. C and F relation.

6. D and t of water.

7. V and t of water.
8. U and V curve.
9. Graphical representation of fall of potential.
10. Relation between the dimensions of beam and bending load.

The educational value of the portraits and biographical sketches of many of the great men of science is at once apparent. Emphasis upon the parts that these men have played in the development of physics has been recognised by eminent writers as an important factor in creating an atmosphere of human interest around the subject. These names should become familiar to every student of physics.

1. Sir Isaac Newton.
2. Archimedes.
3. Otto Von Guericke.
4. James Clerk-Maxwell.
5. Sir William Thompson, Lord Kelvin.
6. James Prescott Joule.
7. Benjamin Franklin.
8. Count Allesandro Volta.
9. Andre Marie Ampere.
10. Michael Faraday.
11. Hermann Ludwig Ferdinand Von Helmholtz.
12. Christian Hnygens.
13. William Conrade Röntgen.
14. Joseph John Thompson.
15. Count Rumford.
16. Hans Christian Oersted.
17. Dominique Francois Jean Arago.

18. George Simon Ohm.
19. Joseph Henry.
20. Henrich Hertz.
21. Sir William Crookes.
22. Antoine Henri Becquerel.
23. Madame Eurie.

Kaehler and Martini with Bibliographical text (29 x 39) cms. Nature series : London, New York. Macmillan.

APPARATUS.

In addition to the stock usually at hand in a chemical laboratory the following are necessary :—

The following is a list of apparatus necessary for a class of twenty students in the practical part of their work in Physics for the Secondary School Leaving Certificate Course. The number required for each and the rate are given. The prices are taken from the catalogues of the following firms. (Adapted from *The Teacher* with the kind permission of the Editorial Committee).

1. Messrs. Phillip Harris & Co., Birmingham (denoted by H in the list).
2. Messrs. F. E. Becker & Co., (now George & Co.) Hatton Wall, London, E.C., (denoted by B in the list.)
3. Messrs. Pye & Co., Granta Works, Cambridge, (denoted by P in the list.)

The list includes (1) apparatus used exclusively by the teacher for demonstration purposes. (2) apparatus necessary for pupils' practical work.

PHYSICS. PRACTICAL WORK. 20 STUDENTS. PRELIMINARY.

				RATE (each).
				£ s. d.
P 20	Boxwood metre scales divided into m.m.	...	...	0 1 6
P 10	Boxwood metre scales divided into cm. with vernier	...	...	0 2 0
H 5	Sliding calipers, nickel plated steel with vernier divided into m.m. and 1/20 inch. 4 in. long	...	...	0 3 9
H 5	Screw gauges reading into .01 m.m. up to 20 mms.	...	...	0 9 0
H 15	Spring Balances up to 1000 x 10 grams	...	...	0 5 9
P 10	Sets slotted weights and hangers consisting of hanger 500 grams and weights 200, 200, and 100 grams.	...	...	0 7 6
P 3	Simple moment bars	...	...	0 3 6
P 10	Pulleys with ball bearings, hanging frames	...	...	0 5 0
H 5	Inclined planes with roller, pan and nrolley	...	...	0 15 0
H 10	Balances to carry 250 grams. Sensitive to 5 mg. (No 7806)	...	...	0 17 6
P 10	Boxes of weights, brass, from .01 gram up to 200 grams	...	...	0 7 6
H 10	Boxes of weights for junior students from 1 mg. up to 50 grams	...	...	0 2 0
H 5	Pendulum, brass ball with screw, cord and boss	...	...	0 2 0
H 5	Stop watches, 30 minutes reading into 1/5 seconds	...	...	0 1 1
H 20	Drawing boards 57 x 60 cms.	...	...	0 5 0
H 5	Brass plumb bobs.	...	...	0 0 6

HYDROSTATICS.

P 10	Specific gravity bottles 20 c. c. capacity with perforated stopper	...	...	0 1 6
P 4	Sets common hydrometers with jars reading from 0.7 to 2.0	...	...	0 18 0
P 5	Nicholson's hydrometers with jars	...	...	0 7 6
B 5	U tubes mounted with paper scale	...	...	0 5 0
P 5	Hare's apparatus on stand	...	...	0 7 6
H 12	Barometer tubes plain	...	...	0 0 8
P 5	Boyle's Law apparatus	...	...	1 5 0
P 20	Pycnometers	...	...	0 1 0
P 10	Mohr's Burettes with stop corks, 50 c. c. in 1/10	...	...	0 6 6
H 10	Graduated cylinders, with spout 100 c. c.	...	...	0 1 0

HEAT.

PRACTICAL WORK.

H 12	Thermometer tubes (empty)	...	...	0 0 2½
P 10	Thermometers, milk glass scale, reading from 5° C to 105° C.	...	...	0 1 6
P 5	Thermometers graduated in Fahrenheit	...	...	0 1 6
P 5	Hypsometers, ordinary pattern	...	...	1 0 0
H 5	Apparatus for determining co-efficient of linear expansion of metals, with brass tube	...	...	0 12 6
P 5	Constant volume air thermometers	...	...	0 15 0
P 10	Small copper calorimeters, 3" high, 1½" diameter	...	...	0 0 9
P 12	Flasks of Jena glass, 1 litre capacity for raising steam	...	...	0 1 0
P 5	Steam traps	...	...	0 0 8
H	For chemical hygrometer :			
5	Flasks with glass stop corks	...	...	0 12 0
10	Stoppered U tubes, 6 inches	...	...	0 0 9
H 5	Regnault's Hygrometer cheap form	...	...	0 5 0
P 4	Sets four barometer tubes, trough and stand	...	...	0 10 0
H 10	Primus petroleum stoves	...	...	0 12 6

LIGHT.
PRACTICAL WORK.

	Rate (each).
£ s. d.	
P 10 Plane mirrors on blocks	... 0 1 6
P 10 Large rectangular glass blocks	... 0 1 0
P 10 Equilateral large prisms	... 0 7 6
P 20 Stands on 4" square iron base 8" high	... 0 3 0
P 5 Concave mirrors mounted to fit above stands	... 0 7 6
P 5 Convex mirrors do. do.	... 0 7 6
P 10 Convex lenses small in ebonite mounts, with clips to attach to above stands	... 0 2 0
P 5 Convex lenses 3½" diameter mounted to fit the stands	... 0 5 0
P 10 Concave lenses, small in ebonite mounts, with clips to attach to above stands	... 0 2 0
P 20 Tabular stands with knitting needles	... 0 2 6
P 5 Small spirit levels	... 0 2 6
H 8 Optical benches (No. 9632)	... 0 12 6
P 4 Common telescopes	... 0 10 0

MAGNETISM.

PRACTICAL WORK.

P 5 Pairs Bar Magnets, 8" long, in pairs with keepers	... 0 2 6
P 10 small compass needles with agate centres on stands	... 0 2 0
P 1 Doz. soft iron bars, per doz.	... 0 0 6
P 4 lbs. iron filings	... 0 0 4
P 1 set sieves, set of three meshes (set)	... 0 6 0
P 1 Doz. steel watch springs (doz.)	... 0 0 8
P 10 stirrups for suspending magnets	... 0 0 4

ELECTRIC CURRENT.

PRACTICAL WORK.

P 10 Simple voltaic cells	... 0 1 6
P 10 Daniell cells	... 0 3 0
P 10 Leclanche's cells	... 0 1 6
H 10 Bichromate cells, bottle form, 1 litre	... 0 4 6
H 10 Bunsen cells, capacity 2 pints	... 0 4 6
H 5 Dry cells, Hellen, No. 2	... 0 2 6
H 10 Tangent galvanometers, student type	... 0 12 6
H 5 Wheatstone, metre pattern bridges	... 0 11 6
H 2 Ammeters (up to 5 amperes)	... 0 15 0
H 2 Voltmeters (up to 10 volts)	... 0 15 0
H Single resistance coils, cheap form of the following values:—	
2 5 ohms.	... 0 2 0
2 1 ohm.	... 0 2 3
4 2 ohms.	... 0 2 3
2 5 ohms.	... 0 2 3
2 10 ohms.	... 0 2 6
4 20 ohms.	... 0 2 6
2 50 ohms.	... 0 2 6
2 100 ohms.	... 0 2 9
2 500 ohms.	... 0 3 0
2 1000 ohms.	... 0 3 6

RATE (each.)
£ s. d.

P 4 lbs. copper wire silk covered, No. 18	... 0 2 10
P 2 lbs. do do. No. 24	... 0 3 4
P 1 lb reel German silver wire No. 24	... 0 9 0
P 5 Tapping keys with platinum contacts	... 0 4 6
P 5 Reversing keys (Multum in parvo) mahogany base	... 0 4 6
P 5 Hoffman's water voltameter graduated	... 0 16 6
H 5 Solenoids	... 0 4 0

PHYSICS.

DEMONSTRATION.

APPARATUS FOR PRACTICAL WORK AND IN ADDITION THE FOLLOWING.

PRELIMINARY.

H 1 Danish steel yard	... 0 7 6
H 1 Roman steel yard	... 0 19 0
H Roof truss (Model)	... 0 8 0
H 1 Apparatus to show that bodies in a vacuum fall with equal rapidity	... 1 14 0
H 1 Balance to weigh up to 1,000 grammes (with extra pan for specific gravities)	... 1 3 6

HYDROSTATICS.

H 1 Equality of pressure in liquids	... 0 4 0
H 1 Transmissibility of fluid pressure	... 0 17 6
H 1 Bramah press, glass model	... 0 2 6
H 1 Equilibrium of the same liquid in several communicating vessels	... 0 3 0
H 1 Pascal's apparatus (thrust on the base of a vessel)	... 1 19 6
H 1 Archimede's socket and cylinder, brass	... 0 5 0
H 1 Set capillary tubes with frame and reservoir	... 0 3 3
P 1 Air pump, Geryk, Duplex No. 1 with receiver, I. R. tubing, complete	... 15 10 0
H 1 Glass globe, with stop cork screw and hook for showing weight of gases	... 0 6 6
H Magdeburg Hemispheres brass	... 0 12 0
H 1 Lift pump, glass model	... 0 2 6
H 1 Force pump, glass model	... 0 3 0
H 1 Model fire engine (glass)	... 0 2 6
P 1 Barometer, Fortin's Principle	... 6 6 0

HEAT. (DEMONSTRATION.)

H 1 Rutherford's maximum and Minimum thermometers	... 0 7 6
H 1 Sive's Maximum and Minimum thermometers	... 0 8 0
H 1 Clinical thermometer, constructed on the Negretti Principle 95 to 110 F.	... 0 2 6
H 1 Bar and gauge (Expansion)	... 0 3 6
H 1 Gravesande's ball and ring	... 0 3 3
H 1 Hope's apparatus for maximum density of water	... 0 9 0
H 1 Daniell's Hygrometer	... 0 12 0
H 1 Regnault's Hygrometer	... 2 10 0
H 1 Dine's Hygrometer	... 1 15 0
H 1 Mason's Wet and Dry bulb hygrometer	... 0 8 0
H 1 Ingenhousz's apparatus for thermal conductivity	... 0 7 0
H 1 Edser's apparatus for comparison of thermal conductivities	... 0 10 6

LIGHT. (DEMONSTRATION).

				RATE (each.)
				£ s d
B 1	Muller's Reflection apparatus	...	...	1 1 0
B 1	Muller's Refraction apparatus	...	...	1 1 0
B 1	Glass trough, length 21 cms. width 12½ cm. and height 25½ cm.	...	...	0 12 0
B 2	Small mirrors on brass stand thumb screw	...	...	0 7 6
B 1	Kaleidoscope	...	...	0 10 6
B 1	Model of the eye	...	...	0 15 0
P 1	Newton colour disc	...	...	0 5 6
B 1	Magic lantern	...	...	11 0 0
1	Wilson's Spectrometer to read to 1' of arc, 5" circle	...	...	6 10 0

MAGNETISM. (DEMONSTRATION.)

H 1	Mariner's compass (No. 5322)	...	...	0 9 6
H 1	Dip needle	...	...	0 16 0

ELECTRIC CURRENT. (DEMONSTRATION.)

P 1	Tangent galvanometer 2, 50 & 500 turns	...	...	2 10 0
H 1	Electro-magnet, horse-shoe form 2.5 cms. diam. of core	...	...	0 10 6
H 1	Electric Bell	...	...	0 5 9
H 1	Telephone transmitter and receiver	...	...	1 7 0
H 1	Set of 5 glow lamps of different voltages. Per set.	...	...	0 10 0

The following is a list of chemicals necessary for a class of 20 students in the practical part of their work in Physics for the Secondary School Leaving Certificate Course. The prices are taken from the lists of Messrs. Baird and Tatlock, London.

LIST OF CHEMICALS.

Quantity.	CHEMICALS.			RATE
				£ s d
20 lbs.	Sulphuric acid pure (1.84)	...	per lb.	0 0 4
10 lbs.	Nitric acid pure (1.42).	...	per lb.	0 0 8
½ lb.	Hydro fluoric acid re-distilled in gutta-percha bottle	...	per lb.	0 2 0
1 Kilo.	Alcohol absolute (Kahlbaum's) out of bond	...	per kilo.	0 2 9
2 lbs.	Ammonium chloride pure	...	per lb.	0 0 9
2 lbs.	Ammonium nitrate comml.	...	per lb.	0 0 8
1 lb.	Calcium chloride, dry, granular	...	per lb.	0 0 10
4 oz.	Charcoal, animal	...	per oz.	0 0 4
2 lbs.	Carbon bisulphide	...	per lb.	0 0 8
2 lbs.	Copper turnings	...	per lb.	0 1 6
½ lb.	Copper oxide, powder comml.	...	per lb.	0 1 8
4 lbs.	Copper sulphate pure	...	per lb.	0 0 9
4 oz.	Iodine (resublimed)	...	per oz.	0 1 8
100 gms.	Iron wire, fine, per 100 gms.	...	...	0 1 11
4 oz.	Magnetic oxide of iron	...	...	0 0 3
2 lbs.	Lead acetate	...	per lb.	0 0 10
1 lb.	Granulated lead	...	per lb.	0 0 8
½ lb.	Mercuric chloride cryst.	...	per lb.	0 3 6
2 lbs.	Paraffin wax	...	per lb.	0 0 9
1 lb.	Potassium bichromate	...	per lb.	0 1 3
2 lbs.	Potassium nitrate	...	per lb.	0 0 8

Quantity

RATE.

£ s d.

½ lb.	Pumice stone	...	per lb.	...	0 0 6
1 oz.	Silver nitrate	...	per oz.	...	0 2 2
½ lb.	Sodium bicromate, pure	...	per lb.	...	0 0 10
7 lbs.	Sodium carbonate, cryst. pure	...	per lb.	...	0 0 5
2 lbs.	Sulphuric Ether	...	per lb.	...	0 0 4
10 lbs.	Sodium chloride, pure cryst.	...	per lb.	...	0 0 8
4 oz.	Sodium nitrate cryst.	...	per oz.	...	0 0 4
½ lb.	Sodium thio sulphate	...	per lb.	...	0 0 6
1 lb.	Sodium sulphate cryst.	...	per lb.	...	0 0 6
½ lb.	Sulphur crystals	...	per lb.	...	0 1 8
1 lb.	Granulated tin	...	per lb.	...	0 3 0
½ lb.	Turpentine purified	...	per lb.	...	0 1 0
1 lb.	Zinc in sticks	...	per lb.	...	0 2 3
10 lbs.	Zinc granulated	...	per lb.	...	0 2 0
2 Kilos.	Amyl. alcohol (128°—132°)	...	per kil.	...	0 3 1

LIST OF APPARATUS FOR DEMONSTRATION EXPERIMENTS IN THE SECONDARY COURSE.

CHEMICAL APPARATUS.

Quantity

RATE.

£ s d.

Quantity or Number.					
1	Pneumatic trough (tin japanned)	...	...	...	0 11 6
6	Gas jars with foot and groundtop 10" x 3"	...	...	...	0 1 4
6	Ground glass discs 3" each	...	...	...	0 0 1
3	Each Funnels, clear glass, plain 2, 2½, 3, 4, 5, 6, 7; 2d., 2, 2½, 4, 6, 7, 9	...	...	...	0 8 9
1 doz.	Bohemian glass flasks, 1 litre per doz.	...	...	...	0 10 0
1 doz.	Jena glass, Flasks flat bottomed 500 c. c. per doz.	...	...	...	0 9 0
6	Best India rubber corks with 2 holes to fit above, each	...	...	...	0 0 9
2	Safety funnels with two glass bulbs 16" each	...	...	...	0 0 7
1 doz.	Thistle funnels safety 12" per doz.	...	...	...	0 1 6
6	" " 18" per doz.	...	...	...	0 3 0
6	Deflagrating spoons, large with brass cap, each	...	...	...	0 0 6
1	" " on metal stand for phosphorus	...	...	...	0 1 6
1	Porcelain mortar, inside unglazed, glazed outside 4"	...	...	...	0 0 9
1	Porcelain mortar, inside unglazed, glazed outside 6"	...	...	...	0 1 6
1	Calcium chloride drying tower 10" high	...	...	...	0 1 6
2	Brass screw clips for rubber tubing ¼" each	...	...	...	0 0 7
2	Mohr's clips	...	...	...	0 0 3
1	Set cork borers, all steel tube 1-9	...	...	...	0 9 0
1	Cork borer sharpener	...	...	...	0 2 0
1	Nickel spatula	...	...	...	0 8 0
1	Thermometer, Jena glass, with milk glass scale 10 to 300°	...	...	...	0 3 0
1	Fletcher foot blower	...	...	...	1 10 0

Quantity or Number.					RATE.		
					£	s.	d.
1	Apparatus to show volume of steam produced by exploding oxygen and hydrogen	...	...	...	0	7	6
1	Lecture Eudiometer, Hofmann's with 3 way tap	...	...	...	0	14	0
14 lbs.	Mercury re-distilled	...	per lb.	...	0	4	3
1	Mercury trough, porcelain, to hold 4 lbs. mercury	...	...	...	0	2	0
1	Induction coil	...	...	...	2	10	0
5	Daniell's cells, large	...	each	...	0	2	0

BOOK-CASE.

Every laboratory should be provided with a book-case always accessible to the student containing books such as the following:—

Such a collection will be very useful to the industrious student and might stimulate the less ambitious.

1. Smithsonian Physical tables by Gray.
2. Cox's Mechanics (Cambridge University Press.)
3. Talbot's Practical Physics.
4. Worthington's Laboratory Practice.
5. An Introduction to Practical Physics (Rentol) Macmillan & Co.
6. Inductive Physics (Armstrong, S. M. Atkins Wells.)
7. Elementary Practical Physics (Watson, 2/6. Longmans Green & Co.)
8. Exercises in Practical Physics. (Gregory and Simmons, 2 parts. Mac.)
9. Practical Physics. (Zones—Longmans).
10. Laboratory Arts (Woollat: Longmans).
11. Physical Laboratory Manual. (H. N. Chute: George G. Harrap.)
12. Elementary Experimental Science—An Introduction to the Study of Scientific Method (Heller and Ingold: Blackie.)
13. Practical Physics. (Bower & Satterly. University Tutorial Press).
14. A Three Years' Course on Practical Physics. (Stclair: Bell & Sons.)
15. Shorter's Elementary Practical Physics.
16. Crew & Taitnall's Laboratory Manual.
17. Lakshminarasu's Physics.
18. Ganto's Natural Philosophy.
19. Aldon's Physics.
20. Glazebrook's Mechanics, Hydrostatics, Heat, Light, Magnetism, and Electricity.
21. Class-books: Cahant & Chute.
22. Wentworth & Hill.
23. Millikan & Gale.
24. Gortan.
25. Hall.
26. Cajor's History of Physics, 7/-
27. Lodge's Pioneers of Science, 6/-
28. Osborn's From the Greeks to Darwin. 8/6.
29. Who is Who in Science. 10/6.

Popular books dealing with physical appliances.
Catalogues of all the leading manufacturers.

III.

LABORATORY MANAGEMENT.

The number of pupils in a Laboratory Section should be strictly limited. It should vary from 10 to 15, which is about the maximum number of junior pupils, which a single teacher can properly look after. In the case of pupils who have been over the same course of work once already, the number may be slightly raised, say, to 20. The larger the number the fewer the opportunities for direct personal criticism and scrutiny of the teacher. Do not these opportunities for frequent direct contact with the pupil justify the place of science in the school curriculum?

Many of the experiments in Physics cannot be completed in one school period. It is unwise to begin a problem on one day in the hope of completing it on another. The discussion and instructions previous to the experiment, the experiment proper and the preliminary observations and computations will alone occupy a double period. Laboratory work done in periods of less than an hour result in slipshod work and can never be dignified as laboratory practice. The time-table should be so arranged as to permit of pupils devoting to laboratory work a whole afternoon or at least a single double period a week. I fail to see any meaning in the suggestion that experiments requiring double periods be reserved for a second year's course and those that can conveniently be finished in a single school period be taken up in the first year of study. This is the concentric method with a vengeance! The gradation is from the simple to the complex and not from single to double periods.

And this brings us to our next point the

teacher's leisure. It is a common practice to expect the science teacher to stay after school time to conduct practical classes. Managers and Headmasters will do well to know that the exhaustion due to a class in practical science is greater than in other subjects, and the teacher of science is by right entitled to his time allowance for his work as the rest of the staff. In the report of the committee of ten appointed by the N. E. A. in 1892 occurs the following:— "To give good instruction in the sciences requires of the teacher more work than to give good instruction in mathematics or the languages, and the sooner this fact is recognised by those who have the management of schools, the better for all concerned. The science teacher must regularly spend much time in collecting material, preparing experiments and keeping collections in order; and this indispensable labour should be allowed for in programmes and salaries." Heads of institutions have yet to realise that the science master, as matters stand, is the most overworked person on the staff, and that, unless he is relieved of over-pressure the instruction cannot yield that training and discipline which it is calculated to give. The work of a science master should never exceed 16 hours per week—the rest of his time being devoted to testing new methods of work, fitting up apparatus, and conducting personal researches. Two periods a day on the average, shall we say, is the birth-right of the science master?

Methods: Collective or Individual. Under the separate system each pupil has a different exercise set him and the apparatus goes round in rotation. This system requires no duplication of apparatus, but taxes the teacher's energy to the utmost and eventually leads

to the haziest notions of the subject in the pupils. As I write I have before me a model scheme of distribution of work adopted in one of the leading high schools. On the same day the pupils are set exercises—some on *photometry*, some on *reflection*, and some on *refraction*. The teacher is expected to go round instructing the pupils in such heterogeneous portions of the subject. How flesh and blood can stand the strain is to me an object of wonder. Our enthusiasts never care for the spirit of the work or the health of the teacher. Rather than neglect anything our faddists do it to death in defiance of common-sense and experience.

I have myself tried this individual system occasionally. For instance I arrange my class in groups to find out the volume of a piece of stone and the pupils go round by rotation determining the volume by several methods.

The collective system is admitted on all hands to be the ideal one. All the pupils are engaged on the same experiment, and the teacher can, after the preliminary discussion on points demanding more than ordinary care, devote his attention to the lame ducks of the class. In the case of certain experiments which cannot well be done by a single pupil, they may be allowed to work in groups. A judicious combination of the two methods in the hands of the earnest teacher is probably the best for poor laboratories in that it avoids the duplication of expensive apparatus and permits it in the case of the less costly.

ASSIGNMENT OF WORK.

A previous knowledge of the results to be obtained or of the law to be formulated, as we have already seen, is incompatible with

rational science teaching. Bringing a pupil entirely ignorant of the work to be expected of him entails much waste of time. Intimation to pupils, a day in advance, of the particular experiment they have to perform should always be given, so that they may have an opportunity of studying the manual before they enter the laboratory, and know what is expected of them. Just before commencing the exercise the pupils may be assembled, and the apparatus exhibited to the class with specific instructions as to details of manipulation. A statement of the problem in perfectly general terms in no way anticipating the results, and a clear indication of the lines of attack will save the teacher much subsequent worry, ensure an intelligent grasp of the instructions, and secure more rapid progress and better quality of work.

QUALITATIVE OR QUANTITATIVE.

I do not propose to enter here into any lengthy discussion on the value of quantitative experimental work in scientific instruction. The rapid progress of science dates back to the time when phenomena could be measured and their exact relations discovered. The thermometer and the balance have opened up a new era for scientific studies. The value of quantitative work in scientific training cannot be better impressed than by the following quotations from Routledge's *History of Science* :—

"It may be asked how a science concerned with phenomena so important and so constantly under observation, has been so late in its origin as the 18th century. It was not for want of facts. But facts, by themselves, however numerous and however important, do not constitute a science. A science is

constituted only when the facts are coordinated by laws, and these in their highest generality always formulate quantitative relations between phenomena. Before any such relations can be formulated, reliable measures of the phenomena must be obtained, and it has been noticed that the development of every branch of science has always kept pace with the means of obtaining exactness in the measurement of its fundamental phenomena. The sciences we now enter upon had waited for ages for its instrument of measure—the thermometer."

"Black's experiment on Magnesia is notable, because it shows that systematic appeal to the balance which constitutes the law of modern Chemistry. Here in the middle of the 18th century only do we find Chemistry seeking a basis for its principles in quantitative relations. This was the first step of the great transformation of the science from its elementary condition of a mass of facts, connected only by vague theories, into that state in which its general principles rest on the incontrovertible basis of definite quantitative relations."

Professor Worthington, the pioneer in the field of quantitative laboratory instruction speaking of his own work at Clifton says :—

"It is undertaken like all the scientific teaching, not with a view of training up physicists, but with the object of evoking in the boys a genuine and generous interest in natural phenomena, and of training them to habits of patient and conscious study. The serious interest thus aroused in a large number is the best guarantee of future excellence in the few who may afterwards become specialists."

Time was when laboratory study was wholly qualitative in character but to-day the

tendency is to make it wholly quantitative and boys are apt to lose interest in it. There is also the possible danger in the mass of bewildering details necessary for the success of quantitative work that the pupils may fail to see any motive underlying the experiment except the mandate of the teacher. In our glorification of modern laboratory methods we have been losing sight of principles. One of the most fruitful sources of the failure of laboratory instruction is to make the course either wholly qualitative, or wholly quantitative. This distinction is artificial and irrational. Quantitative work is essential to a good foundation, but as soon as possible qualitative work should be introduced, and the interest of the pupil in the subject kept up. The teaching would be one-sided if the pupil's attention is limited to the study of numerical laws relating to natural phenomena instead of also on the development and illustrations of such phenomena.

K. S. PARABRAHMAN.

THE RESPONSIBILITIES OF STUDENTS*

MY young friends here may be at a loss to make out exactly the significance of the expression 'Responsibility.' This word is connected with 'Duty,' and it implies liability to be called to account for non-performance or wrong performance of duty. Duty is a term rather hard to define clearly, since men are not at all agreed either as to what the abstract notion of duty is or as to what a man's duty should be in varied

* An address delivered by Mr. M. Krishnaswamy Aiyar, B.A., L.T., Headmaster, S M. Hindu High School, Shiyali, on the anniversary day of the Students' Literary Association.

circumstances. We may say that a man's duty consists in studying his surroundings carefully and in rightly adapting himself to them. Are we to hold that an action done in conformity with the above principle is right? No, certainly not; for there is a wide difference of opinion as to what is right and what is wrong; and even religious questions of which certain broad outlines have been formulated bear a full and hot discussion and rouse up serious strife. Nevertheless, it is clear that duty must depend upon *position*, though the right thing must vary according to the relative position of the doer and the subject thereof. Will it not be absurd to say that the duty of the parent and the duty of the son are identical? So then, it may be said that duty comes with us into the world and abides with us all through our lives. While the due fulfilment of duty brings on approbation from without and within, failure in the discharge of the same brings to the individual concerned adequate punishment from Nature, Society and State, according to the quality of transgression. Herein is seen that the idea of punishability is involved in the idea of duty. Evidently a person exalts or degrades himself in proportion to his high or low sense of responsibility in doing. Among the school-going young men, there seems to be a false belief rather widespread, that their life purpose will be amply realised if they assimilate knowledge treasured up in books, if they pass examinations with credit, and if they behave like good and industrious aspirants after knowledge. True it is that in school they learn devotion to work and profound moral truths fit to be laid to heart in the adolescent stage. Here they are subject to rigorous discipline so necessary to mould character and purify the

soul. The ideal rule of conduct too often dinned into their ears is something similar to the inspiring words of the Light Brigade on their charge at Balaclava:—

Theirs is not to make reply,
Theirs is not to reason why,
Theirs is but to do and die.

In short, unflinching work, implicit obedience, and selfless devotion to their master are verily understood to be the stepping stones to higher attainment. No doubt, these are some of the habits of thought and action that require assiduous cultivation during the plastic period of youth under the sympathetic guidance of teachers; and teachers, too, that know their life's work spare no pains to help the pupils in acquiring knowledge, in forming good habits and in judiciously cultivating their feelings and will. So it is out of place to attempt at any elaboration on those points. There is one feature of school life, however, that I like to draw particular attention to—*viz.*, the habit of reading. This habit takes its beginning in school, and has to be fostered and developed diligently to avoid the evil effects of intellectual inanition. 'School education,' it is remarked, 'is the mere portal to the higher education which every one must give to himself.' In many cases, it may be said, that education does not begin till we leave school. The quickening and full development of intellect could best be facilitated by a free intercourse with the world and by a bold encounter with the realities of life—its trials, disappointments, griefs, and hopes. While at school, the dim shades of the world loom before us. We move only on the circumference of it. What with the imperfect power of our understanding at that period, and what with the close family life that restricts our range of vision, we seldom have a

glimpse of its exciting realities. Though the world of human life has a great educative value, yet more directly must books be availed of, as the means of obtaining self culture demanded of the young. Or rather, books must co-operate to make the culture life affords what it ought to be. The love of books, therefore, is the most essential,—the most efficient instrument of self-education. If this taste for reading be found absent in men, young or old, all intellectual life soon becomes a dead lock, and they regard themselves in De Quency's language 'as miserable and superfluous existences that crowd the canvas of life without any adequate effect'.

Responsibilities, like those referred to, serious and vital in their nature, point to the fact that student life may be placed on a par with the apprentice or probationary stage of a man's calling, that one will be able to stand on one's ground and carry off the palm by properly equipping oneself, that every man reaps as he sows, and that, therefore, it behoves all youths to lay a strong foundation whereon they could build their character and fortune secure, and thus to preserve an unsullied reputation for uprightness and work.

To begin with, the first principle that should be driven home into the minds of the young is what true education should aim at. No doubt it enables the recipient of knowledge to earn his own bread, no doubt it is the means of securing all comforts of life, no doubt it furnishes no small scope for increasing the material prosperity of himself, and of his own kith and kin. But these benefits are not very great and exhaustive, but merely constitute what may be called a poor ideal of education. Education, in its proper significance, must be made to subserve far higher and nobler ends than those indicated above.

XX

The object of education is to train and invigorate the mind in all its powers; and that education is the best which does so in the most complete degree. In these days of examinations, undue pressure is put upon the mind in the aspect of grasping facts. Instead of nourishing the intellect with healthful food, it is loaded with a mighty array of facts and figures to such a degree as to upset the brain altogether. Besides this, there are the feelings, desires and all impulses which lead to practical action in daily life. Unless the feelings and will of a man be educated, he is at best a clever ape capable of exhibiting certain intellectual tricks that he has with much pains learnt for bread-winning purpose. Learning in order to show oneself off or to obtain a livelihood,—not with a view to become a man, to develop one's own manhood and manliness—means running head long into this danger. It is well, of course, to cultivate the head or intellectual part; but it is better to cultivate the heart or moral part—the true lord and master of the whole man. Get it right and all goes well; let it be defective and all goes ill. As the poet Burns says:—

It is not in titles nor in rank
It is not in wealth like London bank
To purchase peace and rest.

* * * *

It is not in books, it is not in learning
To make us truly blest.

No treasures, no pleasures
Could make us happy long.

The heart always is the part indeed
That makes us right or wrong.

In the words of Blackie, 'a man may be as brilliant, as clever, as strong, and as broad as you please; and yet with all this, if he be not good, he is a paltry fellow.' Lord Byron with all his poetic genius was a terrible

failure because he never seriously attempted to curb his wilful humour and to behave like a reasonable being. We see from this that moral goodness is an indispensable element in all forms of real human greatness. When we recognise this as the chief factor of education, then it is clear that instruction has to develop the child not for his own good, but for जन, देश, and धर्म, that is, for the good of his fellowmen, for the progress of his country, and for the advancement of virtue in short, for the benefit of his environment. This, the ardent desire to serve, the longing to secure better conditions, to advance our fellows, to lift the whole is the real duty of the present day. 'No man liveth to himself alone.' In proportion as this is realised, can we be said to lead great lives. In proportion as it is our motive, will our education be real.

Let me say a word or two of each of the modes of service to one's environment referred to above:—(1) *The good of our fellowmen.*—Man is pre-eminently called a gregarious animal, and rightly so. For, an existence exclusive in its nature, divested of companionship and contact with the surroundings is quite inconceivable to us. From the early stages of human life, the sense of feeling for others and with others is very noticeable. When young children play with their dolls, they automatically as it were, show great commiseration when the puppets are slightly damaged by any accidental fall on the ground, thus showing that the feeling of sympathy is deeply ingrained in man's nature and that the germs of that feeling shoot up whenever opportunities for the display are forthcoming. This attachment to objects contributing to the pleasure of children develops gradually when they attain manhood; at which nothing confers so much delight as the

seeking the happiness of fellow beings even at large personal sacrifice. Sir Philip Sydney of glorious memory who delivered his cup of water to a wounded soldier wistfully looking at the same, while he himself was dying from thirst—what a noble example of self-sacrifice! Abou Ben Adam, of familiar name, is a striking example to show that the love of God is commensurate with the love of our fellowmen. God has so ordered the world that each can help and encourage his fellowmen in the battle of life, by faithfully, cheerfully and courageously doing what he has to do. By so doing, there is no man, however humble the position he may occupy, who cannot by his example, brighten and sweeten the lives of others.

(2) *The love of one's own country or patriotism* is a strong union of feelings and attachments. Our hopes, joys and sorrows are displayed in our native soil and so the spot becomes sweetest to us, however bleak and uninteresting it may be. Therefore the strongest feeling in the human mind is this feeling of patriotism. True patriots are impelled by hook or by crook to promote the peace and prosperity of their country and to discourage to the utmost of their ability whatever tends to the contrary. 'Examples of dutiful and loyal respect to the rulers, of strict obedience to the laws and respectful submission to the institutions of the country may be set by them. They may set their faces against all attempts of factious people to create tumult and discord among the ignorant. Or they may help the preservation of public peace and the execution of public justice. They may zealously exert themselves in increasing knowledge and improving the moral habits of the people—two of the best means by which a really conscientious worker

whatever his rank in life, may aid in conferring a lasting benefit on his country. A patriot of the right kind will do all these and many more.

(3) *Progress of virtue.*—No high degree of moral excellence can ever be attained until pains are taken to reach it. Study of books, and listening to moral discourses guide you but to a short distance so that you may not miss the proper road. It is not possible to live nobly except by acting nobly whenever there is occasion. Sacred writings authoritative in their nature, inculcate virtue splendidly and they will be of priceless use to incorporate into your soul healthy notions of morality. A surer method is by presenting the lives of great and noble souls. Burke's grand motto was: Remember—Resemble—Persevere. It is emphatically true for the attainment of moral greatness. Individuals as well as nations will advance in morals by energising, by fondly cherishing literature in all time and preferably by contact with living souls.

Thus then the first idea that should inspire the young, in all that they think and perform, is that their ideal of education must be loftier than the mere accumulation of wealth, power and fame. They must be well impressed with the truth, that the most successful in life is not he who gets the most pleasure, money, power or place, honour or fame, but only he who performs the greatest amount of useful work and duty. Nasmyth, the inventor of the steam hammer, compressed his experience and offered a sure and safe rule for success in any walk, in a laconic fashion thus—'Duty first! Pleasure second!' It seems that ninety per cent. of the cases of misfortune or ill-luck arise by inverting the above valuable maxim into 'Pleasure first! Work and Duty second!'

One of England's greatest sons that worshipped devoutly Duty, the 'stern lawgiver,' and that might have served as a model of a practical saint or of a high-minded patriot is Lord Shaftesbury. His life suggests a few important lessons worth acting up to:—(1) Do what you can to do good with the power you possess and the position you occupy. (2) Vast responsibility rests upon those who have position, money and influence for helping to make our land what it ought to be. From its beginning to its close, his life had been marked with deeds, rich in goodness and benevolence. 'Do noble things, and not dream them'—seems ever to have been the guiding spirit of his life. To accomplish his grand life purpose of 'Love and serve,' he sacrificed every worldly interest and turned aside from every alluring path in which he might have attained a proud position in his country's history. Thus the unswerving discharge of disinterested duty won for him lasting renown. Truly has Tennyson said:

Not once or twice in our island story,
The path of duty was the way to glory.
He that walks it, only thirsting
For the right, and learns to deaden
Love of self, before his journey closes,
He shall find the stubborn thistle bursting
Into glossy purples, which outred
All voluptuous garden roses.

We see therefore that a man's activities and energetic perseverance are the direct outcome of the lofty ideal of duty set up by him. For the right performance of an enduring, selfless work for the good of all, undaunted moral courage is indispensable. By moral courage is meant the courage shown in silent effort, daring to do all and suffer all for truth and duty. As typical of the same, mention may be made of the courage to be honest as that of Socrates; the courage to speak the

truth as that of Harischandra; the courage to avoid debt as that of Sir Walter Scott. How many giant intellects of old have fought their way heroically to public recognition in their step of progress in science? for example, because Galileo held that the earth went round the sun, he was cruelly dealt with. When Newton discovered the Law of Gravitation, he was vilely accused of sweeping out the Divine existence altogether. A person of true moral courage fears to do anything base or unworthy of his position. This feeling, it is, that must enter largely into the mental constitution of all world workers that have got the interest of the many and the suffering at heart. The energy, the perfect will, strength, force, by whatever name we may call it, can be displayed only by the self-reliant. A man's future possibilities rest upon his self-faith, for his efforts will vary according to the strength of his faith. Should we have a high notion of ourselves, we would be better able to perform many noble things than if we were to hold a self-diffident attitude of mind. The saying very often in the lips of adults, as well as of young men, is that they have not been gifted with any special talent, that they were notoriously indolent, and that with all their exertions they have no chance of success. Scholarship and brilliant parts have very little to do with ability to succeed in life; in fact, they are as far removed as the poles are. Histories and biographies furnish a host of examples of greatest world workers whose school-life has been a failure and who have been known to be far from being brilliant in youth. Sheridan was even in his mother's eyes the dullest and most hopeless of her sons. He was sent home from Dr. Whyte's academy with the reputation of being an impenetrable dunce who

wrote 'think' for 'thing.' Gibbon, the author of the 'Decline and Fall of the Roman Empire' was pronounced dreadfully dull and it was predicted of Hume in his youth that he might become a steady merchant. Dryden was a great numskull. Dr. Chalmers was solemnly expelled from school as an incorrigible dunce. John Howard, the philanthropist, was another illustrious dunce learning nothing in seven years.

This is a deep and wide saying of George Eliot's that no miracle can be wrought without faith—without the worker's faith in himself as well as the recipient's faith in him. When Disraeli was young, he was scoffed, hissed from the House of Commons; then he said 'The time will come when you will hear me.' The time did come but with high self faith he controlled the destinies of England for over two decades. Again there is a more striking personage, Daniel Webster. When Daniel declined to accept a clerkship on a salary 1500 dollars a year in the Court of Common Pleas in New Hampshire, his father said 'Don't you mean to take that office?' 'No, indeed, father, I can do much better than that, I mean to use my tongue in the Courts, not my pen. I mean to be an actor, not a register of other men's acts. It was this man's wonderful faith in his own powers that enabled him to overcome the many discouraging obstacles in the way of his advancement such as poverty, obscurity, and to become one of the greatest of American statesmen. So it is self reliance that reveals our power and makes us use our ability. No matter what other people may think about your ability, never harbour the slightest feeling of doubt or suspicion regarding the fruition of your endeavours and aims, when you have put your shoulder to the wheel once. Imbued with a high sense of moral

duty, braced up by a good stock of moral courage and self-reliance, every young man must put his hand to the plough and try with the available resources at his command to improve the material prosperity of his country.

The young man has to remember that duty consists as much in abstaining from things that might produce mischief as in doing those that may confer positive benefit. It is his duty to fit himself for the exercise of his functions as a citizen and not to mar his prospects of future usefulness, by prematurely taking up a side and pledging himself to a party or by embracing with all youthful zeal some political or social creed—very often the outcome perhaps of mere theorising of unthinking enthusiasts. Besides setting up for himself a high ideal and resolving firmly to pursue the right unflinchingly, he should also exercise caution and reserve in his attitude towards public affairs. I quote below what Rev. Dr. Miller said about students' interference with Politics as he is a true guide and the pioneer of missionary enterprise in the matter of education:—'So long as you remain students, keep aloof altogether from any movements which agitate the public mind, or at most take part in them sparingly and just for the fun of the thing. Until your proper time for well founded judgment and for action has arrived, self restraint is an indispensable condition of your having in—after years the weight of influence which well trained thoughtful men ought to have on the affairs—political, social, or of whatever kind.'

To recapitulate:—In calling your special attention to a few of the greatest responsibilities of students, emphasis has been laid on three points: (1) Aim at the highest ideal of

duty, (2) Fortify yourselves by acquiring moral courage which alone is the bedrock that will keep you firm in the accomplishment of your purpose, (3) Get into the habit of self-reliance which is the next essential quality if not supreme as the former. If you learn to fulfil these responsibilities, surely you are on the safe road to individual greatness; if there be a larger number of men in a community that know and perform their responsibilities, then the nation as a whole becomes great. To achieve these high and noble ends, you must strive hard, like a star unobscured, get unrelenting. In fine, I would commend to your serious consideration the following thoughtful lines of the poet:—

A sacred burden in this life ye bear,
Look on it, lift it, bear it solemnly;
Stand up and walk beneath it steadfastly,
Fail not for sorrow, falter not for sin,
But onward, upward, till the goal ye win.

THE VALUE OF OUT-DOOR STUDY IN EDUCATION.

IT is possible to improve the tone of the present day teaching in schools without much expenditure of money, time or energy, by the introduction of holiday excursion as its necessary adjunct. Though unnecessary and strange, such an idea may strike us at first, a careful consideration and trial will, doubtless, convince us of the important part which it plays in making education more useful, more practical and more pleasant than the present one. The purely in-door theoretical teaching that we received in our days blinds or attempts to blind us to the various advantages conferred on education by frequent educational trips; also it explains any indifferent attitude that we might assume towards an immediate adoption of such a system

of out-door instruction. An attempt has been made in the following lines to explain and illustrate the value of such out-door study in education. A few hints as to its being practical and practicable are also mentioned in passing.

The teacher who should create and encourage a love for out-door study in the minds of his students, is an important factor in the making up of a school-boy's education because it is on him that the worth of education of all boys very often depends. It is he that should choose proper places for excursions. The neighbouring hill, sea, river, lake, pond or any other place exciting interest, might give him scope for choice. The day on which he expects his students to join him for out-door rambles, as well as the places intended to be visited, should be fixed beforehand and announced to them before the commencement of holidays when they might be free to enjoy such trips. Only a part of the holidays should be devoted to this educational purpose, otherwise the strain on the pupils would be too much and gradually the charms of such a work will be lost to them. The localities chosen by the teacher should be within a distance of at most five miles; but if places worth visiting happen to be beyond the above distance, necessary arrangements as to the students being taken there should be made and the expenses must be met partly by the school and partly by the students.

Let us suppose that they are taken to a neighbouring hill. There lies everything that comes within their range of observation. Various structures appear to them and they try to argue out on things seen, form conclusions and approach their instructor. He acts as an available and useful medium

through which they obtain explanations on observed things. His immediate guidance has a great deal to do with the opinions formed in the youthful minds. The summit, scope and foot of the hill will appear to them in all its naturalness and roughness. The broken rocks scattered at the foot will strike them as portions of the hill. The teacher at this stage must verify to them the truth of the above by comparison of the rocks above and below. Further he should tell them how the splitting of rocks is due to the agency of frost. The pupils will delight in collecting minerals and in bringing them to their master who should teach them the simple methods of distinguishing them by hardness, colour, lustre and streak. They will come to understand after some experience, observation and teaching, that a rock is an aggregate of minerals and its name is determined by its mineral constituents. Going up and down the hill, the wearing action of wind, rain, frost and running water may be noticed and learnt. Attention should be drawn, at this stage, to similar work done by other agents such as the snow, the glaciers and the sea, which cannot be seen on this hill. Step by step the teacher should lead them to a knowledge of the geological principle that the transfiguration of earth's surface is dependent upon the work of wearing agents. Look with what a little trouble and in what a simple way the fundamental facts of geology are taught to the students! Is it possible that the in-door teaching, bare of such practical helps, can impart so much and in so excellent a way? Besides knowledge, other things such as the love for observation, experimentation and enjoyment are not only acquired but encouraged.

A personal and close acquaintance with objects of Nature—which includes within its

wide range a knowledge of the fundamental facts of most of the sciences like Geology, Zoology, Fossil study and Botany—is gained and enjoyed by a well-directed excursion. The following lines will serve to show that, like Geology, the other sciences can be taught in ways more pleasant, more practical, more useful and more remembered than the present ones. The hill, the river, pond; stream or any place has its own fauna and flora to interest and teach those that are after them. The pond or any shallow expanse of water, among other interesting things, exhibits all the stages of a frog's life from the egg to the fully-developed adult. A look at these stages will bring home to the minds of learners that the frog passes through the stage of a fish. The fins, the gills and other fish-like characters assumed by the tadpoles will assure them of the above biological truth. The teacher should have his own information ready to supplement that of his young learners. The stages of an insect life can also be as easily seen on leaves of plants learnt and appreciated under the guidance of the instructor. Further, the appearance of animals frightened, the leaping, burrowing, creeping and jumping habits of animals can only be studied successfully outside the class-room. The movements of the earthworm, leech, snake, crab and such like creatures are very instructive and interesting things to be *first* observed and *then* studied. Can we deny therefore, in the face of such facts, that the student is really *wiser* and more learned *after* excursion than before it? Have not the facts of morphological zoology entered his head now to much advantage?

Similarly the elementary principles of Fossil study can be imparted to the students. The broken jaws, horns, bones of skulls and

limbs, skeleton leaves and such like remains of a past animal or plant life, must form the basis for the teacher to give some general notions on the methods and conditions of fossilisation. He should cite other instances of the whole bodies of animals or plants being preserved and should explain to the students that a study of the remains can lead to an identification of the past animal or plant.

Returning from the excursion a series of conversation classes should be held to discuss and thereby fully understand the various collections brought by both teacher and pupils. The specimens of minerals, rocks, fossils, plant or animals should be labelled, named and kept in the school museum which should be kept for the purpose.

Have not the powers of observation, inference, experimentation, besides a love for nature and patience, developed in the students now? Do they not compare favourably with those who have taxed their memory with book-knowledge, at the expense of other faculties of the mind? Do not the above paragraphs show that, without out-door study education tends to become, as it now is, very theoretical and burdensome?

If the system of out-door instruction is adopted in our schools, at least in the High School course, though not in the more elementary courses, there is no denying that education will be what it ought to be.

K. RAMACHANDRACHAR.

THE COMPARATIVE STUDY OF LITERATURES.*

By MR. P. SESHADRI, M. A.

I

Students of English Literature are familiar with Matthew Arnold's well-known plea in his essay on *The Literary Influence of Academies* for the cultivation of the note of urbanity in criticism. As an extreme instance of the exhibition of the note of provinciality in literary judgment, he quotes the somewhat Philistine outburst of Macaulay about the alleged superiority of English to the other literatures of the world, from a document which must be of special interest to Indians, his well-known minute on the question of Imparting Western Culture in India. "It may safely be said," writes Macaulay, "that the literature now extant in the English language is of far greater value than all the literature which three hundred years ago was extant in all the languages of the world together." If Macaulay be somewhat notorious for his lack of balance and sobriety in the expression of opinion it is interesting to see the same insular spirit even in persons of more reflective minds. One of our foremost living English poets, William Watson has had no hesitation in declaring,

The prize of lyric victory who shall gain,
If ours be not the laurel, ours the palm.

He has even ventured so far as to say that one flash of "Byron's lightning" or "Wordsworth's light" is worth all the writings of Victor Hugo or Goethe. It will be difficult to say how much of this provincial spirit proceeds from the inborn insularity of the Englishman, represented for instance in the boisterous assertions of dear old Sir Roger, that one Englishman could beat three Frenchmen; that the Thames was the noblest river in Europe and that the London Bridge was a greater piece of work than any of the seven wonders of the world. But the attitude as far as literature is concerned seems to be quite wide-

spread, and nothing could be a better corrective to this lamentable weakness than a wide acquaintance with the numerous masterpieces of the world belonging to languages other than one's own.

In spite of the fact that Dryden drew attention in his excellent Prefaces to the need for comparative criticism in literature, and it has been repeatedly insisted upon by at least one great critic in the nineteenth century, Matthew Arnold, there has been very little effort on the part of students of English Literature to widen their intellectual horizon by a study of foreign models. It is significant however that there should now be appearing even manuals on the subject for the use of students, like Moulton's *World-Literature*, or the recent translation from the French, of the somewhat unsatisfactory book by Emile Faguet, which professes to initiate the student into a knowledge of the world's literature.

No scheme of the comparative study of literatures can of course be possible without a promiscuous use of translations. It may be reasonable to expect a student of literature to pick up one or two languages besides his own, but life must be dreary indeed if every student who is anxious to have an idea of foreign literatures should be compelled to become a formidable polyglot. It is easy to despise translations, [as versions which never reflect the originals with any degree of faithfulness. The Italian proverb subjects literature to cheap ridicule, by the scornful remark that translators are traitors, and Dante Gabriel Rossetti had such a horror of the work, in spite of his own exercises in the line, that the one piece of advice which he was anxious to give to a literary aspirant was, "Never translate, never translate." However effective may be the knowledge of a literature obtained by going to the very original, there is no denying the fact that translations can exercise considerable influence towards the broadening of culture, by introducing to the student of literature, priceless masterpieces which he will never have the chance of reading in the precise

forms in which they have come into existence. In Frederic Harrison's recent chat on books *Among My Books*, the Nestor of Letters has an encouraging message to those who are not fortunate enough to possess an acquaintance with foreign languages, but are yet not willing to forego the privileges of reading the masterpieces in them. The translations are good enough, says Frederic Harrison, and he has even suggested that it is much better reading foreign books in good translations than wasting one's time and energy in wandering through the labyrinth of the grammatical subtleties of an alien tongue. One misses, it is true, the witcheries of verbal harmony and probably some delicate shades of meaning in a translation, but the essence of the matter is there, and the influence exercised by a master's genius even in an alien garb must be considerable. One has only to consider some of the books that have been exercising a profound influence on the nations of the world to be convinced of this truth. *Shakespeare* and the *Bible*, the *Meditations* of Marcus Aurelius and the *Imitation de Christi* of Thomas à Kempis, have had a long era of the most ennobling influence on humanity, in spite of reaching millions of them only through translations.

II

The most valuable aspect of the comparative study of literatures is not the pleasure derived from exercising man's inherent faculty of comparison with regard to literary matters, but it is none the less genuine, and it is one of the finest delights open to the student of literature. As Sir Walter Raleigh has said in another connection, "the discovery of likeness in the midst of difference and of difference in the midst of likeness, is the keenest pleasure of the intellect." If primitive man continually exercised this faculty and gave rise to figures of speech, some of which are embodied in the very derivations of words, the literary student of to-day has similar pleasure in comparing poet with poet and period with period in the

world's literature. Whose literary appreciation has not deepened by entering into a comparative study of Milton and Dante, of Tennyson and Virgil, of Goethe and Kalidasa or of Bhavabhuti and Schiller? It is the same kind of pleasure and instruction, again, that is derived from a comparison of the Romantic movement in English literature with the similar awakening in Germany, of the age of Dryden in England with the age of Augustus in Rome, and so on, not only in relation to the actual achievements of the periods, but in relation to the circumstances operating upon their currents of development.

Nothing strikes a student of English Literature with greater admiration and wonder, than its variety and richness, brought on by the most sedulous absorption of the numerous good things in the great literatures of Europe, ancient and modern, and by the spacious and adventurous life of the children of the race. But of no literature can it be said that it has all the elements of genius of which the nations of the world are capable and the student whose attention is confined to one literature misses sadly all those which might have been developed to perfection in other languages. In spite of what all may be said with regard to the oneness of humanity and the essential kinship of all great genius, it will be idle to deny the differences that exist in the characteristics of national literatures. The late M. Brunetiere was harping upon no unreal distinction when he maintained that the essential characteristic of French literature was 'social' while that of English literature was 'individual.' It will be granted with equal readiness that the most striking characteristic of German literature is its meditative energy and its persistent love of the weird and mysterious in the world. The sunny clime of Italy has its impetuosity of temper, emotional fervour and lyric intensity faithfully depicted in the utterances of its bards. It will be difficult to find anything to match in the literature of the world the sweet

* Inaugural Address to the Presidency College Honours Literary Association, Madras.

and sensuous language of the poetry of Persia, with the fragrance of its roses, the music of its bulbuls and the beauty of its houris. And it is just beginning to be recognised in the world that the student who has no access to at least the best masterpiece of Sanskrit is shut out from some of the most intensely fervent of spiritual outbursts and some of the most elaborately gorgeous of the exhibitions of man's imagination.

The point is brought home keenly in a positive form, when some thought is bestowed on the refining influence which the classics of Greek and Latin exercise upon the modern mind. The culture afforded by the best literatures of modern Europe, seems to be lacking in some of the elements which form a special feature of the literatures of ancient Greece and Rome, and it is impossible to exaggerate the capacity of the latter for refining the mind and widening the emotional sensibilities of man. As Professor Gilbert Murray puts it: "They did not teach people classics simply to make them classical scholars, they did not do it to help them definitely in their vocation or profession, though indirectly they might help them. They did not teach them in order to make great discoveries as people learned in Science. What they attempted to do was to enable their pupils, to enrich their whole life, to train their mind and imagination and to give them not special knowledge, useful for special purposes, but a general basis of knowledge which was relevant to high human endeavour." It is not too much to claim for the classics what has been claimed for them in a recent address on the subject by Sir Frederic Kenyon: "The cause of the classics was the cause of all imaginative aspirations, of all intellectual interests. They were or should be allied with all lovers of literature, with all lovers of history, with all who cherished the spirit of enquiry and freedom of thought. Their object was not to make small boys translate Xenophon and Cæsar but to give them intellectual interests, which would enable

them to appreciate not only Homer and Virgil, but equally Dante and Milton, Goethe and Wordsworth, all the great thoughts of all ages and all lands, and to be awake to the movements of their own days."

The need for a study of foreign literatures will be patent, not only by such a general examination of the elements of a national genius and the directions in which it can profitably be supplemented by those of others, but also by the definite study of particular literary forms and their incompleteness and comparative poverty in any language, in relation to the entire range of the world's literature. From the standpoint of the student of English literature, the defect might be studied in the most acute form in the department of Epic poetry. The needs of the advanced student of literature can by no means be satisfied by the solitary specimen of *Paradise Lost*, though it undoubtedly possesses some of the best essentials of Epic poetry. He must enter into a study, not only of the *Iliad* and the *Odyssey* and the *Aeneid*, but also of Dante's *Divina Comedia*, Tasso's *Jerusalem Liberata*, the *Lusiad* of Camoens, the *Ramayana* and the *Mahabharata* of India and probably even the *Shah Nameh* of the Persian Firdusi. And when translations, distinctly poetic in themselves, of most of these masterpieces are available there is very little excuse for not deepening one's appreciation of Epic poetry by such a process.

The same need for the widening of the intellectual horizon is perceived in the Drama, though there will be no hesitation in acknowledging that English dramatic literature has proved itself to be one of the richest and most progressive of the literatures of the world. But even with the best achievements of Shakespeare in mind, one can understand a longing for the tragedians of Greece whose plays present an entirely different world before the reader's vision, a world of the grim play of necessity, peopled with characters of austere greatness. In comedy, again, it will be

a fearful void not to be familiar with the happy efforts of Moliere, who according to Meredith embodies the essence of the comic spirit in his work. In social drama again, the student of English Literature, must travel far beyond Ben Jonson, Goldsmith and Sheridan, and even the social dramatists of recent times in England, Oscar Wilde and Lady Gregory, Gilbert and Pinero, Galsworthy and Bernard Shaw, to the great dramatists of the continent, Henrik Ibsen and August Strindberg who have heralded a new era of development in the drama, by facing the grim realities of everyday life in their plays and by venturing to solve some of the most momentous questions of modern life. It is necessary to bear in mind again that almost all the recent social dramatists of England have caught inspiration from their work, but not one has yet risen worthy of being ranked with them.

After the unstinted appreciation that has been bestowed upon the Sanskrit play of Sakuntala by Goethe, its enthusiastic translation by Sir William Jones and the German poet and philosopher, Friedrich Ruckert and the general appreciation of Sanskrit dramatic literature by the French Professor Sylvian Levi in his *Le Theatre Indien* there should be very little hesitation in recommending the drama of India to the student of the West. Its gorgeous exuberance of fancy, and subtle play of poetic conceit are by no means a faithful reflection of life, but they are sure to exercise a curious fascination even on those who have been fed on the best productions of Western literature. Goethe's appreciation of Kalidasa's masterpiece is well-known:

Wouldst thou the life's young blossoms, and
the fruits of its decline,
And all by which the soul is enraptured,
feasted, fed,
Wouldst thou the earth and heaven itself in
one sweet name combine,
I name thee O'Sakuntala! all are at once
said!

The Prelude to Goethe's *Faust* was suggested by the Sanskrit play and we had the recent testimony of Mr. W. B. Yeats who said that he could never write a play without this heroine from the Eastern hermitage coming into his mind.

It is unnecessary to pursue this examination with regard to other departments of literature, but reference must be made to the literature of criticism, in which a student cannot advance very much by confining himself to English. After a study of all English critics from Sir Philip Sidney to Walter Pater there is a need for a study of classical criticism and also the best critical writings of modern Europe. Even a very modest programme would include Aristotle and Horace, Lessing and Goethe and Sainte Beuve and very little progress can be made in æsthetic theory without a knowledge of Kant and Croce.

The association of English literature with almost all the literatures of Europe suggests another effective reason for a free exercise of this kind of comparative study. The student's appreciation of particular periods of English literary history must remain incomplete without even a cursory acquaintance with the literatures that have operated upon them. *The Foreign Debt of English Literature* by Tucker, while it places before the student a convenient manual on the subject, suggests also the large number of directions in which advanced literary study should proceed. The motive forces underlying English Literature from the Conquest to Chaucer and again during the eighteenth century when English writers bowed down to the authority of Boileau, can never be understood with any vividness without a knowledge of French literature of at least those periods. It is to the same source that we must turn again in the nineteenth century for a deep understanding of Walter Pater and Matthew Arnold, or of Swinburne and Austin Dobson. The affinities which it has with German literature are not less marked. The liter-

ary relations of England and Germany in the sixteenth century alone have furnished matter for a whole volume by Dr. Herford, and the work of De Quincey and Carlyle would be unintelligible without a picture of its background of German literature and metaphysics. Poets from Spenser to Rossetti have drunk deep at the fountains of Italian literature and masterpieces like the *Faerie Queene*, *Adonais* and the *House of Life* would lose much of their significance without the powerful support they receive from Italian associations. It is hardly necessary to make any reference to Greek and Latin as they have permeated all elements of English literature and have been freely drawn upon by every poet since the Renaissance. It must be the endeavour of those engaged in the higher departments of literary study to delve deep into the very origins of the literature with which they are concerned, and comprehend it in all its bearings and associations.

Literary research of any advanced kind, especially with regard to the sources of fable and romance, is rendered absolutely impossible without such a programme of study. A concrete instance will prove the vast extent over which one's mind has to spread itself in tracing such origins. Students of William Morris will not easily forget the story of the *Man Born to be King* but it has travelled all the way from India to Europe and it is even possible to trace the various stages on its journey. It is the *Chandrasekhara* of the *Brihadkatha* or the *Kathasarithsagara* in Sanskrit; the same story is found in an Arabic version by a Coptic Christian; the hero figures again as Thalassion in an Ethiopic version; he is King Constant of a tale emanating from the Bosphorus; he is in Greece; he is in Germany; he is in one of the early French Romances; he changes his sex in a Yorkshire folk-tale, but the incidents of the story are still the same. In the passage of a large number of tales from East to West, in the time of the Crusades

through Persian and Arabic, there are the germs of numerous literary efforts of later centuries in Europe. And Eastern books like the *Fables of Pilpay* and the *Arabian Nights Entertainment* have yet to be exploited on any wide scale with a view to get valuable information about the origins of many a Western fable and romance.

III.

In a large number of cases, a systematic study of the world's literature may not be possible even on a humble scale, but even the stray reading of translations of foreign books, which come across one's way by accident has got its own value. The reader has then the feeling of entering a quaint world, but in that region of pleasure he will have the satisfaction of exploring mental treasures that have not come very much within the public gaze. It is probably a volume of ancient ballads from Japan, full of beauty and power, the *Kokinshin*; it is the Indian *Song of Songs* or the *Gita Govinda* of Jayadeva with its outpourings of love rising to a spirit of religious fervour; a few quatrains from Sadi or Hafiz or fragments of Sappho; a quaint old romance in Latin or one of the early lives of Dante in Italian; a medley of Eastern Poems by Goethe, the *West Eastern Divan*; a translation of Cauldéron or the chronicle of the Cid and an anthology of songs from the little but heroic Kingdom of Servia—there are numerous pleasant corners of the type in which the student of literature might revel with delight. There is probably even a need for such an occasional digression from the beaten paths of one's own literature, to give one's mind at least an element of freshness and startling variety.

A special responsibility devolves upon the advanced student of literature in India, and that is the imperative need for his picking up an acquaintance with the literature of his own country. It must be difficult to take any kind of living interest in the numerous vernaculars of

the land, understood only within disappointingly small areas, but it is necessary to get into intimate touch with the spirit of Sanskrit literature, which embodies all that is best in the civilisation of the country. The Indian can never hope to get the hall mark of literary culture, if he is not familiar with the thoughts and aspirations that have moulded the lives of his ancestors, and continue to exercise an abiding influence even at this distance of time. There are excellent manuals on the subject, like Macdonell's *History of Sanskrit Literature*, Frazer's *Literary History of India* and the two excellent little books by Dr. Horowitz, the *Indian Theatre* and the *Short History of Indian Literature*, which may be availed of for a fulfilment of the purpose.

The scheme of studies sketched here in brief outline is open to the obvious objection of suggesting too wide a scope for the average student. Rasselas is reported to have exclaimed on listening to an enumeration of all the qualifications necessary for a good poet, "Enough, thou hast convinced me no human being can be a poet." It is hoped that the departments of study included in this programme are not quite as formidable. They constitute an ideal, to be pursued in accordance with individual capacity, and with the available energy and time in each case. It is necessary, however, to bear in mind the excellent caution of Mill: "To have general knowledge of a subject is to know only its leading truths, but to know these thoroughly, so as to have a true conception of the subject in its great features."

It is only when literature is extended to such wide bounds that the student gains access to its best treasures and realises its utmost power for good. It is only then that literature can become in the words of Ruskin "an eternal court," "its society wide as the world, multitudinous as its days, the chosen, the mighty of every place and time."

UNIVERSITY OF BOMBAY.

Scheme prepared by the Syndicate for the development of University Post-Graduate Studies.

The Syndicate have considered a letter from the Government of India, Department of Education (Education), No. 93-C. D., dated 31st December 1912, and the letter from the Government of Bombay, Educational Department, No. 347, dated the 7th February 1913, both with reference to the utilisation of the Imperial non-recurring Grant of three lakhs, and the recurring Grant of Rs. 45,000; and also with reference to other grants to the University by the Government of India. The two letters referred to above deal with the recurring expenditure proposed by the Syndicate under four heads. The first two heads have already been disposed of, the expenditure on the Library being in the hands of an enlarged and representative Library Committee, and the Senate having itself disposed of the question of the Expert Adviser. The Syndicate have so far confined themselves to the methods of carrying out the scheme of post-graduate study under University auspices by the appointment of University Lecturers for the year 1914.

2. The Syndicate feel that any proposals in this connection which they make ought to be regarded as tentative and subject to revision each year. It is not until the attempt to secure suitable lecturers has been made and the course of lectures have been actually delivered, that the strength or weakness of the arrangements will be seen. It is not desirable that they should be planned on too grandiose a scale. The University will do well to limit its first teaching activities to such fields as seem to promise surest success, and they will probably prove to be those in which there is the greatest opening for and need of original work.

3. The Report of a Committee of the Syndicate which dealt with the subject on August 21st, 1912, suggested three forms of post-graduate teaching: (1) Courses of lectures by eminent Professors of

British Universities, who would visit India for this purpose; (2) Inter-Collegiate lectures to be delivered in the main by members of the staffs of the Colleges of the Presidency and to be paid for by the University, the appointments being temporary; (3) University Professors holding permanent appointments. The Committee, however, recommended that such permanent appointments should be postponed till the Expert Adviser had made his report. The proposals of the Committee were accepted by the Syndicate, approved by the Senate on September 30th, 1912, and submitted to Government. The Government of India in their letter (Education) No. 93-C.D., dated 31st December 1912, approved provisionally this triple scheme but they suggested that the inter-collegiate lecturers should hold permanent appointments and they reversed the amounts allotted by the Senate to the lecturers from Europe and India respectively.

The Syndicate have now reconsidered this scheme, in the light of the views expressed by the Government of India, and with a view to more detailed proposals. They think that for the promotion of post-graduate study the University requires three kinds of teachers :

(i) *Professors* of high distinction occupying permanent appointments to which high emoluments are attached. The function of this class of teachers would be principally to organise and carry out research, secondarily to train students in the work of research, and thirdly to give lectures in which the professor not only would teach students but would give to the public indications of the results of his work. The conditions of such appointments may be defined later with the help of the expert adviser. But the Syndicate wish to point out that in their opinion ultimately this class of appointment should constitute the real nucleus of the University's system of post-graduate teaching. The professor will be a man of ample leisure for his work and in receipt of emoluments sufficient to render his position one of dignity, comfort and attractiveness. He will be the expert adviser of

the University in all matters connected with his subject, and will advise on the organisation of teaching in his subject.

(ii) *Readers* to deliver course of lectures on the special branch of learning in which they are interested with a view to the assistance of students entering upon research work or conducting special studies. These lecturers would be selected from distinguished scholars in Europe. They would be requested, in selecting the subject of their lectures, to have regard to the nature of the post-B.A. courses and to publish beforehand a synopsis of the course. They would be expected to deliver not less than 24 lectures and also to undertake some direct supervision of students' work in the period during which the course lasted. Such supervision might mean a personal interview once a week with students and advice as to their methods of study. Only genuine post-graduate students should have a claim to such help from the Readers.

(iii) *Lecturers*.—The Syndicate feel that the University will have done only a little to establish post-graduate teaching when it has provided such Readers. Their courses will be few and in the main limited to such aspects of the subjects as interest the lecturer himself. They think it necessary to attempt the organisation of more comprehensive and systematic instruction and direction of graduates in the prescribed courses of post-B.A. studies. To achieve this the University needs to devise a scheme of lectures which will cover at least the more difficult portions of several of the branches into which the M.A. course is divided, and to provide some supervision of the studies of M.A. students. The Syndicate, therefore, propose the appointment of a number of lecturers to undertake such systematic instruction and direction. These lecturers would be drawn from the staffs of the Colleges of this Presidency and also from elsewhere. They would be men who would have attained to some clear distinction in the branches of study which they professed. They would co-operate so as to avoid duplication of work and classes

and to cover as much of the prescribed courses as possible.

4. In the current year it is proposed that an attempt shall be made to bring into operation only the second and third parts of the scheme. With the limited funds at the University's disposal and with the object of not undertaking more than can be well done, the Syndicate recommend that it shall, to begin with, concentrate its post-graduate energies on a small number of branches of study only. In the selection of these subjects the Syndicate have had regard to the character and aims of the University in the past, the utility, popularity and vitality of the various branches of study, to the possibility of obtaining Readers of satisfactory quality and distinction in any subject and to the needs of the students. They recommend that the post-graduate courses to be undertaken by the Readers and lecturers be limited for the present to the following four subjects :—

(a) *Oriental Classical languages*, preference being given to Sanskrit and Persian because this University has always specially interested itself in promoting the study of those languages.

(b) *General Modern History and Indian History*.

(c) *Sociology and Economics*. This subject and History are selected because (among other reasons) they are known to afford great scope for research and development, because a widespread interest is being manifested in them, and because the Syndicate has already decided to develop the University Library in these two directions, so that there will be material and literature at hand for advanced study.

(d) *Philosophy*. This subject is selected because the student undoubtedly needs help in the study of European philosophy, because Indian philosophy, which is now included in the M.A. course, seems a subject for which lecturers will be found most easily outside the staffs of the Colleges: further, the University Library is providing a supply of books on philosophy.

5. *Remuneration*.—The Syndicate have also considered the number of Readers and Lecturers to be appointed and the amount of remuneration that will be adequate to secure teachers of the requisite quality. The remuneration of a Reader coming from Europe cannot, in their opinion, be put at less than Rs. 4,000 for one course of lectures, out of which sum the Reader would be expected to defray all his expenses. As Government have sanctioned Rs. 12,000 for Readers from Europe and Rs. 6,000 for Lecturers, the Syndicate recommend that :—

(a) *Readers* : three gentlemen distinguished for scholarship be invited from Europe to give as Readers of this University courses of lectures respectively in an *Oriental Language and Literature* (preferably Sanskrit); (ii) *Modern (including Indian) History*; (iii) *Sociology (including Economics)*, at a remuneration of Rs. 4,000 each. The courses should in each case consist of not less than 24 lectures.

(b) *Lecturers* : the University should provide three distinct courses of lectures in each of the following five branches of the M.A. course : (i) *Oriental Classical Language, Sanskrit*; (ii) *Oriental Classical Language, Persian*; (iii) *History*; (iv) *Economics*; (v) *Philosophy*. These subjects are the same as those proposed for the Readers, with the addition of Philosophy, so that M.A. students who attend the courses of both Readers and Lecturers will get from three to seven courses directly on or connected with the branch they have selected for study: in addition they will have advice and direction from as many teachers of ability. The Syndicate propose that the University pay to each Lecturer for one course of not less than twenty-four lectures a sum of Rs. 4,000, the total cost amounting to the Rs. 6,000 sanctioned for this purpose. They believe that this amount of remuneration, coupled with the distinction that, they hope, will attach to the position of University Lecturer, will suffice to attract the best lecturers available. But they think, nevertheless, that it

might be supplemented by fees paid by those attending the lectures. At present certain Colleges charge fees to M.A. students amounting to Rs. 60 a year. The Syndicate suggest that a uniform fee of Rs. 10 per annum be charged to each student for each course of lectures he attends, the fee to be payable to the College of whose staff the Lecturer is a member, or to the Lecturer himself if he be attached to no College. In the former case the disposal of the fees would rest with the College authorities. The lectures would be open to all graduates whose names were entered on the roll of a recognised College and the College authorities would supply the Lecturer with the names of those wishing to attend.

6. *Time*.—It appears to the Syndicate that distinguished scholars from Europe will be unwilling to visit India in the cold season, because that is the time when the Universities of Europe are in busy session. But most Universities of Europe enjoy a long summer vacation and many of their scholars and professors might be willing to accept an appointment at that time of the year. The Syndicate, therefore, recommend that the Readers from Europe be invited to deliver their lectures in the monsoon term of 1914. The work of the Lecturers would normally be spread throughout the whole year.

7. *Place*.—Having regard to the grouping of the Colleges in this Presidency it appears to the Syndicate inevitable that all these courses of lectures should be delivered at Bombay or Poona. In view of the fact that the University Library is in Bombay, the Syndicate think that, other things

being equal, Bombay should have the preference. But if the Lecturer and a large majority of those attending his course live at Poona, the Syndicate may be given the power to allow the lectures to be delivered there.

8. *Method of Appointment*.—(a) The Syndicate think that for the purpose of obtaining Readers from Europe the Syndicate should be instructed to apply to such bodies as the Universities' Bureau of the British Empire: and also to advertise in high class papers (e. g., *The Times* and *The Athenaeum*). Correspondence should at first be conducted with such agencies and directly with the applicants; and a suitable scholar having been found and approved by the Senate and the Local Government, the India Office should be asked to engage him.

(b) The selection of candidates for appointment by the Senate to the post of Lecturer should be made by the Syndicate after notification, and perhaps advertisement in the Indian newspapers, of the number of Lecturers required in each subject. Members of the staffs of Colleges should be required to forward their applications through the Principal of their College; other gentlemen would apply direct to the Syndicate. Applications should contain a statement of the exact subject of the course, the number of the lectures and the dates proposed. In recommending Lecturers the Syndicate would be careful to avoid duplication or overlapping of subjects. When appointments have been finally made, a sub-committee might be appointed by the Syndicate to organise the course in connection with the Reader or Lecturer.

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EDUCATION IN THE MAGAZINES.

(INDIAN.)

A Plea for the Average Pupils.

Under the auspices of the Science Branch of the Teachers' College Teachers' Association, an interesting and useful lecture was delivered by M. R. Ry. M. C. S. Ananthapadmanabha Rao, M.A., L.T., on 'A Plea for the Average Pupils.' M. R. Ry. T. V. Sivakumara Sastriar presided.

The term average reminds me of the period in the history of education in this side of India which has recently been brought to a close—that period of passes and failures. Every boy at the end of his course anxiously looked for the day when he would be declared to have passed the Matriculation Examination. The passed candidate thought that he was fit for everything and the plucked one was under the impression that he was fit for nothing. Failures produced such a sort of impression in the general public. But that period has been brought to a close. There is no absolute failure in this world. After having gone through a course of ten or twelve years, I do not think we are right in saying that a boy is a true failure.

We have entered into the period of averages. Every school has its average, judged by the headmaster and the other teachers of that school, and its value is estimated as compared with the average of other schools and the presidency average. Although a pupil gets marks below the average, yet he is not declared to be an absolute failure. He gets his certificate and he does not feel himself much, till he finds out from the opinion expressed by so many Principals that he is not fit to enter upon a college career. Even then the chance of entering upon a practical course of life is thrown open to him; and the certificate enables him to find out in what direction he may proceed.

The lecturer then pointed out how the average of a school is to be judged. Referring to statistics showing the marks of pupils, and the average of the various schools, he explained the difference between a fictitious average and a real one. A real average implied that there was a particular group corresponding to it and a class of figures which did not differ by a large amount from the mean.

He proceeded to say the part the teacher took in securing a real average. The influence of an experienced teacher—one who knows how to deal with a class, who teaches for the average boys, who questions them and gets proofs that they follow him—on a pupil was very considerable. Such schools where there were experienced teachers who

had an ideal to follow secured generally a real average.

Supposing a teacher by his teaching should aim at the real average, the question is could he adopt a standard which was to be followed by the best boy in the class or by boys of average ability? The curriculum had been laid down by the Department. It contained only the main heading; but the details were left to the discretion of the teachers. It is so very elastic, that they could take up a good many details under each. Teachers should take up only those details that could be understood by the average boy. By doing so, he would be doing the maximum benefit for the greatest number of pupils in the class and he would be placing before the backward an ideal which was lower, and consequently, easily approachable by them. The best again will not suffer.

He concluded by saying that by adopting the course of instruction suitable to the average pupils, the average itself would go on increasing.

Mrs. Annie Besant, on the Value of Culture.

Under the auspices of the Presidency College Union Society, the inaugural address was delivered by Mrs. Annie Besant, the subject of the discourse being the "Value of Culture." Mr. C. P. Ramasami Iyer was in the chair.

The first step taken in the direction of introducing culture in College and University teaching in the West was the giving of a practical side to instruction, by lessening the time spent on Latin and Greek and to give that time to scientific instruction, and to a very large extent experimental work in the laboratory. She was not depreciating the value of scientific training. On the contrary she held that a cultured man ought to have gone through a course in laboratory work so that he might realise something of the principles of natural law, something by personal experience of the inviolability of natural law. Culture was in many ways a higher development of the human intellect than the knowledge of the application of facts for useful purposes. Culture dealt with ideals. The intellect in man had subtle divisions. The education of the mind was the gradual accumulation of a large number of facts on which man could base certain conclusions by processes of induction and deduction. They might work in the laboratory and have an enormous number of facts classified and applied and turned to many useful purposes, but that collection of external facts would never give them an ideal, which was a creation of the mind, the Budhi. That faculty could

only be exercised when it was directed by great ideals and was turned to the realisation in one's-self of that which intellectually one recognised to be sublime. She meant by culture a gradual leading of a young man or woman along the line which would enable him or her to formulate great ideals and then give them that sense of unity, that all were rooted in oneself which would make the ideal the practical guide in life.

The lecturer proceeded to recite several illuminating passages from Shelley's poems and St. Paul's writings to illustrate what true culture was.

In conclusion Mrs. Besant exhorted young men of India to read their own classics from which Greek writers learnt wisdom. The ancient Indian literature was such that it cultured the mind and purified the heart. While they should not neglect the old they must also become acquainted with the new. Culture did not come from constant reading without thought, but culture came from an assimilation of what they read. They might become book-learned men, but their aim should be to become book-inspired men. If they thought that all she said pointed to something higher than passing examinations, and if they realised that education did not mean the obtaining of so many marks which would open the way to so many professions and to Government service, &c., and if they realised above all and beyond all that education should make them what they ought to be, Aryans in thought and life as well as by descent, and if they meant to raise India high, for India had a right to rise high, they should remember that India could only rise high through young men over the length and breadth of the land, and only as they assimilated her wisdom could they raise her to her rightful place, the one all-round nation that yet had appeared on earth, where spirituality was dominant, where intellect was magnificent, where morals were pure, and where prosperity was great. Such an India they all believed that young men would create.

Professional and Technical Education, by the Hon. Dr. T. M. Nair.

The inaugural meeting of the Associated Societies of the Madras Christian College was held at the Anderson Hall. There was a large gathering of students, and the Hon'ble Mr. Justice C. G. Spencer was in the chair. The Hon'ble Dr. T. M. Nair delivered the inaugural address on "Professional and Technical Education in the Madras Presidency."

In the course of his remarks Dr. Nair said that in India over 80 per cent. of the graduates took up

the profession of law as a duck took to water. There was no lack of facilities for legal education and on the average there was provision for 250 graduates to enter the Law College year after year. The Law College was a paying institution and the Government did not want to starve it. There was no complaint as to the facilities for studying law, and there was also no complaint on behalf of those who had taken up the profession. They all seemed to thrive and would with patience get on, now that high places were being created. Anyhow they had nothing to complain about the legal professional education. Medical professional education stood on a different basis. For the whole of the Presidency they had one college, which at its inception was only intended to train men for the Military department. It was now converted into a civil institution, but there was not much of development in it, and the accommodation available was not sufficient to meet the demands. The College could take only about 70 students a year, and there was not room enough for all the men wishing to join the College. When they understood what the duties of medical men were they would realise the importance of the subject. The duties of medical men were not only to look after medical relief but also to look after sanitation, and in fact their duties were multifarious. Whenever there was a call there were not a sufficient number of trained medical men for duty. A most practical way of solving the difficulty would be to introduce an examining body who would grant diplomas to persons trained in recognised institutions, and this of course in addition to the University graduates. Such a scheme had already been introduced in Calcutta, and Madras would do well to follow. But the great difficulty was where to find a training institution. A training institution without a hospital attached to it would be of no use, and this was impossible with private agencies. One other difficulty was that if they took more men into the College they would not have enough number of patients in the Hospital for clinical training, but he thought that after the necessary scientific education the men could be sent out to the hospitals in the mofussil for clinical training.

Speaking with regard to Technical education Dr. Nair reviewed the whole history from its inception till the year 1908 when an Industrial Conference was held at Ooty, when it was recognised that technical education should be utilised in developing existing indigenous industries. The dyeing school started at Madura proved a failure on account of the fact, as repeatedly announced by Dr. Marsden, that the persons taught were unable to remember anything of the explanations given

for any length of time, and that without some general education, there was no hope of attaining any success. He laid stress on the fact that there was lack of scientific material in India, and that it was the duty of the Corporation and the Government to develop technological institutions.

Advice to Students, by the Hon. Principal Paranjpye.

At the terminal gathering of the Wilson College Social Union, the Hon. Mr. R. P. Paranjpye, B.Sc., M.A., Principal of the Fergusson College, Poona, delivered a lengthy address to students in the course of which he said :

I remember to have read last year of a certain Doctor Sir Jonathan Hutchinson—the expert on Leprosy whose theory was that it was due to badly salted fish, who died at the age of eighty. He left a will saying that the only epitaph he would like is one in which he is described as a "forward looking man full of hope." Few men at this age of 80 have this virile, forward looking character. They are generally harking back to one or two moments of their lives when they came in the public lime-light. They measure the importance of any new event by the balance of their one important achievement and are generally dissatisfied with all that followed it. What we want our young men to possess is this forward looking character. The characteristic of older men that I have alluded to just now is equally true of old countries. A country with a hoary past is burdened with that past in many cases. I suppose a modern Italian or a Greek must be occasionally chaffing under the insult implied by this unending talk about old Italy or Greece as if there is nothing worth attention in modern Italy or Greece. We, in India, suffer from a similar incubus of our past. Our country has been great in the past; we cordially acknowledge it; but this glorious past is only an additional insult to us if we are not worthy of it, if we are looked upon as mere descendants of the great men that lived before and are not to be considered as we now are.

In another sense a great past is a disadvantage; for from the beginning we are expected to come up to the past in order to be at all worthy of consideration. The sons of great men start with a similar handicap, but while in their case they have ordinarily, at least, the advantage of fostering care, and attention of their parents, the inheritors of a great past have no such advantage. We have, of course, the lessons from History, but in India it is just this history that is wanting, while there is a

plithora of philosophy, Smritis, etc. If we add a good historical literature in Sanskrit we should not have read our old literature from a statistical point of view and regarded our old ways as something to be implicitly followed. If we had a great historical literature we would have had opportunities of regarding our past from a dynamical point of view. We should have been able to observe that our present institutions, which we regard as consecrated by custom, did not arise all complete as it is pretended that the four castes arose from the primeval from his various limbs. But that they were all subject to the process of evolution, that there might have been a time when castes had been influx when there was no caste, when perhaps, castes were merely a political phenomenon as is probably indicated by the word being used in both senses of caste and colour.

Of course, I am also alive to the advantages of a former great civilization, but these are dinned into our ears so often, in season and out of season, that I think this other aspect which I had sought to present to you is worth consideration. In particular for young men, it is the future that you must look to. Soon a time will come when you will get old and you will naturally be harking to the past whether it be your own or of your country. The problems of the past were different, but every cultivated man is gifted with a sense of judgment, and it is this faculty that you must confide in. Do what seems to you proper, not taking too much heed of historical precedents. Of course, I know that even if you do this in future, it will be found that the actions of all of us in the mass have been subject to some law. But these laws and tendencies are best discovered *a priori posteriori* rather than discussed *a priori*. Thus actuaries would tell you that of men in their 20th year a certain definite percentage will surely die in the course of a year, but if one particular individual out of you in his 20th year begins to think incessantly whether he is to be one of those who are to die in the course of the year, you will call him demented and perhaps he will by his melancholy thoughts help to fulfil his foreboding. Have then thoughts of a cheerful, hopeful, optimistic nature. These are natural to youth and do not let anybody turn you away from these.

It is because this social union of yours is actuated by thoughts for the future rather than the past that I regard it as a very hopeful sign, indeed, for the future of our country. This future will not be glorious if we stick to our old paths, if to the divisions that are already existing among us, we only add a few more. We are often asked to look to

the Western Nations and find whether there are not divisions among them partaking more or less of the nature of castes. I say in the first place there are no such divisions corresponding to castes in the West, excepting, perhaps, in the case of the Whites and Negroes in America, for all other divisions are social divisions and not watertight compartments which you cannot pierce. But in the second place even if there were, still those countries are themselves feeling that rigorous social distinctions are not desirable and there are various agencies and movements which typify the better feelings in those countries. Such movements are socialism missions among the poor, etc. At the present moment particularly where countries are at war with one another, they are fighting as units and not as aggregation of units. Witness the scene in the House of Commons, where men who were bitterly fighting with each other, but five minutes before stood shoulder to shoulder in face of the common enemy. We are doing that now in India to a certain extent. So far as words can go we are unanimous in our support of Government; we are actuated by the feeling that Britain is fighting now not in a selfish course for the purpose of aggrandisement at the expense of the weak, but is doing its best against the haughtiness of the strong. We are united in words and are saying that we are prepared to act. Even if from various considerations, actions on our part are not just now wanted, would it be too much to say that we should so mould our ordinary conduct that when call for action comes, our action will be as from united people and not as from members of various divisions among us. To me the various demonstrations of loyalty that come from various divisions among the people, although in the present circumstances all that are desirable and possible appear tinged with colour as the very existence of divisions among us that they imply, show that in action we may not be so united as we pretend to speak. How much better could it have been if the single demonstration in the Town Hall the other day had been all that was necessary, and if the various sectional demonstrations had not even been thought of as necessary, and if every body had contented himself with the thought that the whole includes the part?

This fissiparous tendency among us is apparent everywhere. Even in institutions, like schools or colleges, cliques have a habit of arising cliques, which rather look to points of contact between its own members. Are not social jealousies between students of the same college well known at occasions when a member of a college would rather see his colleagues fall in a cricket than that it should

succeed through the instrumentality of a rival clique? Against these tendencies students should specially guard themselves; minute differences have a habit of looming large on our horizon if they are too near. But we must have a sense of proportion. The differences between a Chitpavan or a Saraswat are often all very trifling and not apparent to a foreigner and would disappear if they were not so continually harped upon or accentuated. We should allow such differences, the opportunity to die the speedy death they deserve and not give them the invigorating dose of prejudice and racial feeling and assist them to have a longer lease of life. If these prejudices long continue, the life of an institution or a country cannot long be prolonged. It shall be dissolved into its elements, its history to be pieced together in future by some painstaking antiquarian. If we wish to be living units of living institutions and living countries, let us forget the sources of discord and learn to work together in any work that is to our hand. Listen not to those that say that division is the natural course of things, that caste has kept up the life of India so many thousands of years. What care we for these thousands of years if they are years of a dormant, still life, a veritable living death! Better, in the words of the poet, 50 years of Europe with its active rigorous and pulsating life than a cycle of Cathay, this must refer to Cathay's forty years account with its dull dead uniformity. If you wish to live at least these 50 years of Europe, destroy all seeds of disunion and add to the unconscious effects of a healthy college life, the conscious efforts typed by such institutions as your social union.

(FOREIGN.)

Sir W. Crookes on Research.

The thirty-third annual meeting of the Society of Chemical Industry, opened at Nottingham on 15th July, under the presidency of Dr. Rudolph Messel, F.R.S., who succeeded to the position upon the election of Sir William Crookes as President of the Royal Society. Some hundred and fifty members, apart from the local section, attended the proceedings, but to their great disappointment neither Sir William Crookes nor Sir Henry Roscoe, who had been expected, was able to attend. The Society were offered a civic welcome at University College by the Mayor of Nottingham, who said that if there was any truth in the suggestion that we had not made the advancement in chemical science attained by our competitors, he hoped the Society would do its best to remove the stigma.

Dr. Rudolph Messel read the presidential address, which had been prepared by Sir William

Crookes. Dealing with the great strides made by Technical Chemistry, he referred particularly to the progress made by the Haber process for the synthesis of ammonia, to the increased production of nitric acid, to the work by Dr. E.J. Russell and others on the application of antiseptics to the soil, to the solution by Mr. H. Frasch of the problem as to how the deep-lying sulphur of Louisiana could be extracted to the work of Dr. Walter Feld in preparing ammonium sulphate direct from crude coal gas to the recent work on the synthesis of rubber to Dr. F. Bergius's new method for preparing hydrogen, and to his own researches on the preparation of eye-preserving glass for spectacles.

In spite of these and other advances, however, he said, the world was greatly in need of able researchers, perhaps more so now than at any previous time in its history. We might be certain that discoveries of vast importance were waiting their Newtons. But was not the attitude of the public towards investigators lacking in understanding and imagination, and did not the authorities treat scientific exploration in a niggardly spirit? Scientific men had to deplore the fact that there appeared to be a lack of men gifted with the genius for research and for grappling with the riddles of the earth. Scientific research had been and was being starved. It was high time that measures should be taken to remedy this state of affairs, which otherwise could only end disastrously for the nation. He knew they would be in hearty and enthusiastic agreement with him when he said that the allotment of public moneys to the furtherance of scientific work, the tangible recognition of the services of scientific men, the provision of opportunities for all kinds of investigations of scientific problems without reference to their immediate commercial value were the benefits to be looked for at the hands of Government and of the nation. And what were their responsibilities and duties in regard to research? He thought their chief care should be to see that they encouraged and cultivated the right type of man for research work. They should make more definite efforts to select suitable men from among their students, and to train them to the highest point of efficiency, after having made up their minds what were the special qualities needed. He thought they could learn a great deal from the training of the Army Scouts. Researchers were actually scouts, penetrating strange and unknown countries, and the keys to success were the same as for all scouts. The principal qualifications were confidence, keenness, intrepidity, inspiration.

"The Senate and the Subordination of the Teachers in India."

The *Times* gives a lengthy article on "University Control of Colleges" from which the following extracts are taken:—

The ruling Council of the University is a very large body known as the Senate, whose members are called Fellows. Since Lord Curzon's Act of 1904 a substantial proportion of the Senate must consist of active teachers, and this was the most valuable of the reforms made by the Act. But the majority of the Fellows are always non-academic persons, English officials whose sole knowledge of University affairs is drawn from their undergraduate memories of Oxford and Cambridge, and, in much larger numbers, Indian gentlemen, chiefly ambitious pleaders and politicians, for whom a University Fellowship is a recognition of their public importance. It is a common complaint that nominations to Fellowships (which are in the control of the Government) are determined, not by the academic qualifications or interests of the nominees so much as by political considerations. A is given a Fellowship because he is not quite good enough for the political appointment which he coveted; B because he is inclined to be politically restless, or because he has done some useful service. The teaching body does not directly elect representatives to the Senate; nor do the colleges, and it may easily happen that a particular college has no representative upon the Senate for years together. Most of the lay members of the Senate do not trouble themselves about academic affairs, and will attend meetings on special occasions—for example, when it is necessary to resist proposals for diminishing the ease with which B. A.'s are manufactured.

The executive control, under the Senate, is held by a small body known as the Syndicate and elected from the Senate. It includes some teachers (not, of course, elected by their colleagues), but usually has a majority of laymen. In practice it controls the policy of the University in academic as well as financial matters, the Senate being too big for detailed work. There is a body known as the Faculty for each main group of studies—arts, science, law, medicine—which again includes laymen as well as teachers, and which makes recommendations to the Syndicate regarding degree courses and other academic questions. Here again there is no direct representation of teachers; only a nomination of those who seem desirable to the controlling influences in the Senate. Finally, there is for each separate subject a small

board of studies of five or six members, which proposes text-books, defines syllabuses, and so forth. These boards also often include laymen; and there is no assurance that any individual teacher will ever have a chance of being a member of them. In Calcutta, for example, where the Presidency College is beyond comparison the most important teaching institution, the Professor of English in that college does not, or did not, sit on the English board, or the Professor of Economics on the Economics board, or the Professor of History on the History board. On all these three boards the college is represented by a junior teacher of history, a loyal adherent of the Vice-Chancellor. These boards in effect fix the courses of study that must be followed by every teacher, however distinguished. There is in the Indian system no provision whatever for common deliberation among the teachers as a whole, or even the teachers of a particular subject. Quite commonly the teachers of various colleges, scattered over a province as big as a European State of the first rank, have never seen one another. The teaching body as a whole has no influence upon the programme of the University; individual teachers exercise such influence only indirectly and by favour. This is without doubt the worst system of University government which exists anywhere in the world.

THE UNIVERSITIES.

CALCUTTA UNIVERSITY.

Age of Matriculation Candidates.

There was quite a lively discussion at a joint meeting of the Faculties of Arts and Science of the Calcutta University over the question of minimum age for Matriculation candidates. The upshot of it was, that the minimum age of 16 is to be calculated as having been completed at the end of the calendar year in which the candidates sit for examination,—in other words the minimum age is practically reduced by 10 months. Sir Gurudas seemed to be averse to the laying down of any arbitrary rule as to age limit at all, while his opponents appeared to be actuated by the laudable motive of relieving the strain on a too young examinee. No doubt a lot has been said and might be said pro and con both these points of view. But, in our opinion, it is the system of

education and examinations in vogue which, as we have often pointed out, ruins the health and manhood of students. This evil cannot be remedied by limiting the age of candidates sitting for Matriculation examination to 15 or 16 or even 17 years so long as the system itself is not thoroughly rehabilitated. If the tender boys go on submitting themselves, as now, to the strain of swallowing the numerous books and undergoing examinations on them till the preparatory class and wait in the Matriculation class, say 1 or 2 years for the statutory age, will that make them any the less unhealthy? And yet this is the practical effect of this arbitrary age rule and this is the point of which all the learned gentlemen who debated on the matter seemed to be oblivious.

Nor can we make out how the meeting could reject the very reasonable proposal of Prof. S. C. Mahalanabis that some elasticity ought to be allowed to meet cases which constituted a special hardship on individuals. He really voiced the public sentiment when he said that those who experienced the pinch of the rule really understood its inconveniences. There are, at this day, scores of unfortunate students, bright and promising, who are smarting under this "pinch" imparted by an arbitrary rule, not because there is anything intrinsically wrong or faulty in them, but because they could not, anticipating the whims of a few University magnates, take their birth a few months earlier!—*A. B. Patrika.*

Senate Meeting.

A meeting of the Senate was held at the Senate House, College Square. The Hon. Dr. Deba Prosad Sarvadhikari, Vice-Chancellor, presided and there was a fair attendance of Fellows.

It was resolved that Mr. D. B. Meek be appointed University Lecturer in Physics at Dacca for two years with effect from the session 1914-15.

The Senate then resolved that Syriac be included in the list of Classical languages for the Matriculation, I. A., B. A., and M. A. Examinations.

The Senate next considered the following recommendation of the Syndicate:—That in Chapter III, Section 6 (d) of the University Regulations, for the expression "Majority of the

Fellows on the Faculty" occurring in the seventh and the last two lines of the section, be substituted "Majority of the Fellows present and voting."

In view of the wide area under the jurisdiction of the Calcutta University and in view of affiliation of various colleges and schools to the University, it was thought necessary to increase the number of Fellows by giving facilities to colleges and schools situated in Burma, Assam and Bihar and Orissa. Some of the Faculties, however, were opposed to this change, but a compromise was arrived at and when the resolution was moved for the confirmation of the Syndicate's resolution by Mr. Dass Gupta it was carried unanimously.

TECHNICAL EDUCATION.

INDUSTRIAL AND TECHNICAL EDUCATION.

A committee was appointed by the Government in January 1912 to consider and report upon the improvement of industrial and technical education in the north of the city of Madras. The committee recommended among other things the formation of a system of State apprenticeships among the Engineering shops in the north of Madras and the opening of a technical school for the training in mechanical engineering of the apprentices. These recommendations were generally accepted by the Government, and, since then, they have been considering how they could be given practical effect in the best way possible. Meanwhile, the question arose as to whether in addition to mechanical engineering the facilities for technical education in the school should not be extended to the other branches of work also, whether the motor works should not be invited to co-operate in the scheme under consideration and what other industries should be included in the technical instruction to be given. The last one formed the primary question for consideration. The apprenticeship is required to be still further worked out and the Government desire to have specific information as to how many apprentices each employer will be prepared to take, what rates of pay they will be willing to give the apprentices and whether the Government help to the latter should be in the form of supplementary money payments or in kind, such as the creation of hostel accommodation and the like. The Government have before them, at present, only a very rough outline of the work to be done, and details have yet to be worked out in regard to the number of appren-

tices to be admitted, the scale of fees to be introduced, the curriculum of instruction to be imparted, the staff required for the purpose, the examination or tests to be prescribed at the end of the course and an estimate of the cost. The school will be started only after threshing out all the above details in regard to the working of the institution. A committee consisting of seventeen gentlemen, sixteen Europeans and one Indian, with Mr. K. T. B. Tressler, Director of Industries, as President, has been appointed by the Government to advise in detail on the several points and to work out a regular scheme. The members of the committee, other than Government officials, are gentlemen, who are intimately connected with trades and industries. It is to be regretted that there was a deplorable delay in the hatching of the scheme, in view of the fact that the recommendations of the committee appointed in January 1912 were placed before the Government in August the same year. Many of the details connected with the working of the institution have yet to be worked out. The scheme is a very useful one, and we wish it every success.

Reviews and Notices.

EDUCATION AND PSYCHOLOGY, BY MICHAEL WEST, I.E.S. (LONGMANS, GREEN & Co.)
Price 5s. net.

This book sets forth in decided language the author's conclusions regarding the prevailing system of education, and the lines on which improvements might be effected. His discussions on physiological and psychological topics in their bearing on the practical work of the educator are clear and simple, and show his wide acquaintance with up-to-date literature on educational psychology. His convictions are strong, and he evidently feels what he writes; but when he asserts that 'from every aspect of Physiology and Psychology, education is most accurately turned upside down' one is reminded of Rousseau, and cannot but be struck with the language of exaggeration into which the author's vehemence has led him. In his severe condemnation of the existing practices he has overlooked one important point, a noteworthy feature in the history of the world,—it takes some time before accepted theories crystallize into practices, and by the time these practices come into general adoption, further progress in knowledge has been gained, so that theories are always ahead

of practices, and there is nothing uncommon in conflicting principle and practice being found side by side. The book is, nevertheless, valuable for the practical remarks and reflections it contains and the chapters where remedial schemes are suggested are specially well worth perusal.

ELEMENTARY BOOK-KEEPING, BY E. V. SPICER AND E. C. PEGLER. (OXFORD UNIVERSITY PRESS.)

The authors of this tiny volume on the subject are already well-known for their excellent treatises in Book-keeping, Auditing, and Commercial Law, and have won a high reputation and wide popularity for the very lucid, practical, up-to-date, and thorough-going treatment of the subjects they handle. Though the present work is an elementary book on the subject intended for those who begin its study, it covers rather a wide range, including portions dealing with Depreciation with all the methods in vogue for it, Company Accounts, Branch Accounts, Double Account System, and Sectional Balancing, portions which are generally taken up in advanced treatises on the subject. Being only an elementary treatise, it is not, therefore, to be expected that a book so comprehensive in its scope will contain a detailed and complete exposition of these portions; only as much can be explained under each of the long list of headings that form the contents of the book as to prepare the student to understand and follow with ease a detailed treatment of the more difficult stages of the subject in an advanced book on it. It is by no means easy to present in one volume of a little over 350 pages a complete compendium such as the one now before us. But, the authors have successfully achieved it, for, the book is a marvel of condensation, with concise and clear exposition of the principles of book-keeping in the portions dealt with. The appendix at the end of the book containing suitable graduated questions will serve as very useful exercises to test the progress of students.

"CONDUCT AND CHARACTER," BY J. H. WICKSTEED. (NELSON). Price 1s. 6d. net.

This forms Book VI of the Moral Instruction Series prepared in accordance with the syllabus of

the Moral Education League and is intended for Standard VI, i.e., for pupils of 12 to 13 years of age. The plan on which it is written is to present, as the author says, at the beginning of the chapter a brief scheme of each lesson for the teachers' use and guidance. This scheme is then expanded and illustrated in the pages that follow with stories, histories and analogies. Manners, courage, patriotism, the victories of peace, duties of citizens in times of war, the evils of war, justice, ownership, thrift, truthfulness and conscience are the various heads under which the author inculcates the various virtues which every citizen should cultivate. The book, however, cannot be made use of in Indian schools without considerable modification at the hands of the teacher. The examples by which the virtues are illustrated are all taken from the histories of European nations both ancient and modern with which Indian boys of school-going age are not acquainted and cannot therefore appeal to their feelings. This appeal should be through Indian examples and traditions. But biographies of real Indian worthies of historical fame are yet to be written. The examples of Puranic personages cannot serve the purpose because they are all looked upon as gods more or less, whose deeds could alone be explained by ascribing to them divine rank and power. They are presented as so elevated as to be inimitable, and as belonging to so remote a period of time that their very existence is regarded as a myth and consequently their heroism and virtues can have no influence on the conduct of the people of the present day.

"SELECT PASSAGES ON DUTY TO THE STATE," 1ST AND 2ND SERIES, BY J. G. JENNINGS. (OXFORD UNIVERSITY PRESS).

These two books make very good reading for all classes of persons and are calculated to impress upon them the importance of the duties of good citizenship and of taking a wider view of life than that which prevails among the majority of our educated men of the present day. The extracts are selected from the best authors and speakers of all ages and civilized countries of the world. Still such scraps on a single subject however complex and vast, cannot be very interesting reading to any one whether young or old. But they one and all are beautiful and bear evidence of the taste as well as of the wide reading and the wisdom and labour of the compiler.

THE WORLD'S CLASSICS: 191. SELECTED SPEECHES: FROM BURKE TO GLADSTONE, EDITED BY EDGAR R. JONES, M. P.; 192. SELECTED ENGLISH LETTERS: (XV-XIX CENTURIES). ARRANGED BY M. DUCKITT AND H. WRAGG; 193. SELECTED ENGLISH SHORT STORIES: (XIX CENTURY). (HUMPHREY MITFORD, OXFORD UNIVERSITY PRESS.) 1s. each.

Mr. Jones has made a judicious selection of English speeches of outstanding merit. The inclusion, however, of one or two examples of American oratory and eloquence would have enhanced the value of the volume,—speeches such as those of Daniel Webster—equal to any delivered on British soil, being little known even in England. We cannot understand how it is that indications of popular approval and applause, (such as 'Hear, Hear' or 'Cheers,') are given in the report of only one speech. The youth ambitious of making his name as a speaker cannot be recommended too strongly to study carefully which mode of giving an opponent a thrust in the sides was appreciated, which sally was greeted with applause or which manner of laying down a proposition failed to commend itself to the audience. We hope that when this anthology comes to be reprinted the failure to provide these indications will be repaired.

Nearly two hundred specimens of English epistolary art have been collected by Messrs. Duckitt and Wragg. The selection is not without merit.

'Not every one may hope to write even a bad novel. It is the length that kills';—such was the opinion of Stevenson. But he was not unaware of the difficulties of the writer of short stories; he recognised that 'industry and paper and time enough' would, in the absence of the special gift, result in the production of only bad novels. Dr. Hugh Walker's introduction to the volume of Short Stories does not fail to call attention to this point. Though the selection has been carefully done, we cannot but regret the omission to include a specimen of the consummate art of Thomas Hardy. A volume of short stories of earlier centuries and a volume of short stories in verse would be desirable additions to the series.

TAMIL NOVELETES, BY T. CHELVAKESAVAROYA MUDALIAR, M. A. 6 As

The short story is yet to establish itself in Tamil. Mr. Chelvakesavaroya Mudaliar's present book is,

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therefore, to be greeted with hearty welcome. The excellence of the style of which he is master is evident on every page, and is another reason why we hasten to welcome this small book of five short stories adapted from European sources. One of the stories, *Karpalankaram*, a rendering of one of the best stories of Boccaccio, is an exquisite cameo, and equal felicity of phrasing can be found only in his condensation of the story of *Robinson Crusoe*. The other stories are also very well-written, and furnish proof of the care with which Mr. Mudaliar turns out his literary wares. We trust every lover of good Tamil would greatly enjoy the stories.

FIRST BOOKS OF HISTORY: 1. ENGLISH HISTORY: BY F. J. C. HEARNshaw, M. A., LL.D. 2. IRISH HISTORY: BY THE REV. H. KINGSMILL MOORE, D.D. (MACMILLAN & Co.) 1s. 6d. each.

These books 'intended in the first place for school children' may 'also be useful to those of more mature years who for one cause or another have not made acquaintance with their country's story, and desire to do so.' The printing, the binding and the illustrations are eminently satisfactory. Mr. Hearnshaw's book, however, is marred by many misprints; the mistakes on pp. —might have been avoided by more careful proof-reading. We cannot also honestly say that there is anything distinctively good in the book. Dr. Moore is commendably impartial in dealing with the history of a country which has been consistently misunderstood, and his book may be placed in the hands of our youngsters so that they may learn to compare the histories of two unfortunate countries,—Ireland and India.

HISTORICAL COURSE FOR MIDDLE FORMS: VOL. 1. WESTERN EUROPE: BY B. L. K. HENDERSON, M. A., D. LIT.; VOL. 2. THE ENGLISH NATION: INDUSTRIAL AND SOCIAL HISTORY: BY P. MEADOWS, M.A. (G. BELL & SONS) 2s. each.

Intended as this series is for English boys of between twelve and sixteen, we are sure that school-boys of the same age in India may use this series with profit. Though the curriculum does not allow of the introduction into our classes of specialised instruction in Industrial and Social or

Constitutional History, teachers ought not to be slow in persuading pupils to study these aspects of the history of the English and of the nations of Western Europe. The employment of passages from original sources out of suggestive questions leaves nothing to be desired.

ANCIENT HISTORY: BY E. NIXON AND H. R. STEEL. (G. BELL & SONS.) 2s.

An elementary conspectus of the kingdoms of antiquity,—of Egypt and Babylonia, of Assyria and Persia, and of Greece and Rome,—well-written and well-illustrated like this one, should be placed in the hands of our boys.

'VYASA LAKSHANAM': BY MR. S. VENKATACHALAM AIYAR. Re. 1.

This is the first of four volumes of a text-book of Tamil Composition, and we are tempted to wish that the other three volumes appear early. Mr. Venkatachalam Aiyar gives copious exercises and numerous model-essays,—features which would appeal to the student of the school-leaving class. We expected that a writer on Composition would deal with the problem,—a difficult one in Tamil, of adapting the forms of Sanskrit and English words to suit the Indian ear and tongue, but we have been disappointed. The author seems still to believe in the efficacy of making the student work out Passive forms in Tamil, and what he has to say on Compound sentences in Tamil would have been more clearly expressed had he given up the usual English classification of sentences, and adopted for Tamil the recommendation of the Joint Committee on English Grammatical Terminology to abandon the name 'Compound sentence,' and to describe sentences in which two or more co-ordinate parts occur as Double, Treble or Multiple, as the case may be.

LONGMAN'S INDIAN READING BOOKS: (1) LITTLE LADY OF THE SUN, 6 ps.; (2) RAMA AND SITA, 6 ps.; (3) TALES FROM PANCHATANTRA, 2 as.; (4) THE BOYHOOD OF KRISHNA, 2 as.; (5) THE STORY OF RAMA, 4 as.; (6) THE KING'S TALE, 4 as.; (7) SOUTH INDIAN TALES, 3 as.; (8) ROMANTIC TALES AND LEGENDS, 6 as.—PUBLISHED BY MESSRS. LONGMANS, GREEN & Co.

Knowledge, like charity, must begin at home. A child must know something of its own

surroundings and country before reading of foreign lands and modes of life. Such knowledge, to be really useful, must be gained mainly by observation, supplemented by instruction in the child's own mother-tongue. But the learning of a foreign language is made easy when ideas already familiar to the juvenile student are clothed in that language and it is the want of such facilities for Indian boys and girls learning English which these readers, graded for 5 standards, seek to supply. The readers, we may say at once, are all well written and well got up, though the illustrations might have been better chosen and executed. This remark applies particularly to the original drawings which are crude and often misleading. No Indian child, for example, is ever likely to mistake the man in the picture facing page 29 for a Brahman, or the running quadruped on the next page for a thin and famished donkey, in the *Tales from Panchatantra*. The other pictures in this otherwise very successful book are also far from satisfactory. We notice that Dasaratha on page 25 of *The Story of Rama* is an old man with a bushy beard, whereas on page 27 relating to the same scene he has shed his beard and is an altogether different person. This comes of selecting illustrations from the works of two different painters, which is responsible for the other incongruities in the illustrations in this book. There are also a few slips in the subject-matter of these readers, e.g., Sita was not separated from Rama for "many years," as stated on page 22 of *Rama and Sita*. A better story than that of the Tanjore and the Trichinopoly rogues (we have heard that the latter was really a Tiruvalur rogue and so of the Tanjore District only) could certainly have been chosen for leading off the *South Indian Tales*. But these defects do not vitiate the purpose of the books which is to facilitate the learning of English and we therefore commend the Readers which are priced cheap and neatly got up.

"MADHURAVANE."

This is a Kannada monthly conducted by Mr. Hanuman, Mysore. The journal is still in its infancy, and has just completed two years and three months. In such a short time as this, the journal has had the good fortune of securing some of the best Kannada scholars as its contributors. The journal deals chiefly in topics, literary, social or scientific. Of late, an attempt is made at mild political articles. All of them

are, in general, interesting and scholarly. Besides, small novels and useful booklets of public interest are published in the journal, separate pagings being given for each. It is gratifying to note that Mr. M. Visvesvaraya, B.A., M.I.C.E., C.I.E., Dewan of Mysore, heads the list of patrons of the journal. With a little more moderation and a little more care in passing the proof to the press the journal bids fair to become a very useful and popular monthly among the Kannada-reading public.

"NABHA."

This is the second of the Kannada novels published under the title of *The Sathee Hithaishinee Series* by "Srimathi Thirumalammal of Nanjangud, Mysore District." The heroine of the story is an educated poor Brahman widow, who is made to undergo all kinds of hardships brought to bear upon her by herself owing to her strict celibacy. There appears to be a glimpse of autobiography in the story unless the contrary is proved. The book with its graceful style affords a very interesting and instructive reading right from beginning to end. The third number is expected to be a continuation of this, and is promised to be brought out in course of a month or two. We should like to suggest to the authoress to avoid as many Sanskrit words and Sanskrit compounds as possible, and make her production, at the same time, free from the unusually large number of typographical errors which this book contains. It is, however, a sincere attempt, the first of its kind by a female author, at publishing periodical Kannada novels for light reading. We wish her every success. *Suseela* and *Nabha*, the first two novels of the said Series will, we are told, be sent to any permanent subscriber for a Rupee only, and the succeeding novels will be priced at 4 as. for every 100 pages.)

Indian Educational Notes.

MADRAS.

Government Grants.—The Local Government has directed the distribution of a subsidy of Rs. 147,922 among local bodies for opening new schools and for increasing teaching establishments of existing elementary schools.

The Pasumalai High School.—The sixty-ninth Anniversary of the American Mission High School and Training Institution, Pasumalai, was celebrated in the Washburn Hall, recently. The hall and the premises were beautifully decorated with flags and festoons and a very large number of ladies and gentlemen were present. Mr. A. R. Knapp, I.C.S., Collector of Madura, presided over the deliberations. A varied and interesting programme of songs, recitations, dialogues and declamations were gone through, after which the Principal, Rev. J. X. Miller M.A., presented the Report of the educational institutions at Pasumalai for the year 1913-14.

The Principal in the course of the Report said that the school year under report was important in more than one way. It was the year in which the one year course for the Secondary and Elementary Higher grades was extended to two years and the practical working of the four years course in the Lower Secondary and First Grade Model School Departments, came into force for the first time. They received the largest Government grant of Rs. 8,000 for apparatus and Rs. 8,000 for the construction of a Normal School hostel. This too was the year in which His Excellency Lord Pentland paid to the school the first visit they had ever received from a Governor of Madras. There were 300 pupils in the High School Department, 86 in the Training Department and 212 in the Model School as against 339, 84 and 202 respectively in the previous year. In the High School, the results of the S. S. L. C. public examination were quite good, 24 students completing their school leaving certificates. In the training department 15 appeared for the secondary grade and 10 passed, 33 appeared for the elementary grade and the results were awaited. The institution also acquitted itself very creditably in the District Inter-School sports.

The Inspector of Schools of the Southern Circle, Mr. T. O. Hodges, in his report regarding the working of this institution during the year said:—"The institution is different in its aim from any other school in this country that I have seen, since the various subjects are taught not merely for their own intrinsic value but as part of the general education of character. The school has for many years been turning out students who are calculated to prove useful members of the community. It is no doubt doing a very valuable work."

After the prize distribution was over, Mr. A. R. Knapp, Chairman, made his concluding speech. He congratulated the Principal and his staff on the

very satisfactory record, both scholastic and athletic, of the school.

The National Anthem was sung and with the usual vote of thanks the meeting was brought to a successful termination.

Opening of a Hostel at Pasumalai.—The opening ceremony of the Rao Bahadur S. R. M. M. A. Annamalai Chettiar Hostel attached to the American Mission Training Institution, Pasumalai, took place recently when Mr. A. R. Knapp, I.C.S., Collector of Madura, presided. The new building, which is beautiful, lofty and spacious, built according to the modern requirements, was tastefully decorated with flags and evergreens. A large number of gentlemen and ladies were present to witness the ceremony.

Punctually at the hour appointed, Mr. A. R. Knapp arrived at the place and was received and conducted to the building by Rev. J. X. Miller, Principal of the Pasumalai institutions. Mr. Knapp then opened the door of the building amidst vociferous cheering.

After all had taken their seats, the proceedings commenced with a song by the School choir. Rev. J. J. Banning offered prayer and Rev. J. X. Miller made a statement regarding the origin, purpose and cost of the new building.

The Chairman in declaring the building open said that it gave him very great pleasure to open the Rao Bahadur S. R. M. M. A. Annamalai Chettiar Hostel. The occasion was interesting because it marked an epoch in the history of the Pasumalai institutions and it bore testimony to the admiration for the work of the American Mission by one who represented one of the most important, at the same time, one of the most conservative of the Hindu communities of these districts. Mr. Annamalai Chettiar had contributed before large sums of money to the American Mission Hospital at Madura in charge of Rev. Dr. F. Van Allan and it was particularly interesting to find on this occasion that Mr. Annamalai Chettiar's benevolence had been directed to a new channel which was only very rarely recognised by the people in India. The Hostel movement in India was particularly a modern one and Pasumalai had been the pioneer in the field. Its object was to assimilate as far as possible the conditions in Indian schools and colleges with those that prevailed up in the Boarding Schools in England. As one brought up in public schools in England, he had a very high respect and admiration for such schools for the manner in which they managed to inculcate in their alumni those valuable traits of character—manliness, self-discipline and unselfishness, and he hoped that the same would be the case here also. Mr. Miller conducted the Chairman round the building after which the meeting terminated.

Lawrence Memorial School, Ooty.—Lord Pentland presided over the fifty-sixth anniversary of the Founder's day of the Lawrence Memorial School at Lovedale. There was a large gathering of European ladies and gentlemen, including all the leading civil and military officials of the station present on the occasion, when Lady Bentland distributed the prizes for the boys and girls of the institution. The school has considerably progressed during the past few years and great credit is due to the Rev. W. H. G. Padfield, the Principal and Secretary of the School, who before his taking up the appointment was well-known in Murree, where he was in charge of the Lawrence School.

Unveiling of portraits at the Zamorin's College.—The portraits of Rev. E. B. Hill, late Principal, and of the late Mr. G. Subba Rao, Vice-Principal of the Zamorin's College, were unveiled recently in the College hall in the presence of a large gathering. Mr. M. S. Rama Aiyar, B.A., B.L., was in the chair. The Chairman dwelt at some length on the saintly character and virtues of the two teachers and paid a warm tribute to the good work they had done for the College. With the usual vote of thanks to the chair and cheers for the Zamorin, the proceedings terminated.

The Madras Poor Boys' Fund.—The following students of Colleges in Madras have been awarded scholarships from the above fund for the year 1914-15. The scholarship for a student of the B.A. and Honours' class is Rs. 10 and that for the Intermediate course is Rs. 7 per mensem.

PRESIDENCY COLLEGE.—O. Sankara Singh, E. Rajagopalachari, K. Seshagiri Rao, G. Venkatesan, and S. Vaithinathan.

PACHAIYAPPA'S COLLEGE.—T. Krishnaswami, P. V. Ananthanarayanan, C. S. Krishnaswami, K. Ramakrishniah, and K. V. Viraragavan.

CHRISTIAN COLLEGE.—V. Natarajan, M. Sriramulu, S. N. Ramaswami, P. Kothandaraman, and R. V. Seshiah.

WESLEY COLLEGE.—K. Seshachari, S. Narasinga Rao, and M. S. Srinivasachari.

In addition to these seven more scholarships will be awarded, two for students who passed the Intermediate Examination in the 1st class and are now studying in the B.A. or Honours' class and five for those who secured not less than 50 per cent. of the marks in all the subjects in the recent School Final Examination and are now studying in the Intermediate class. Forms of application for scholarships can be had from the Principals of Colleges, or from the Secretary, the Ramakrishna Students' Home, "Car View, Mylapore, Madras.

Coimbatore College.—A meeting of the members of the local College Committee was held at the Thomas Memorial Hall, Mr. A. R. Cumming, I.C.S., presiding. Rao Bahadur M. G. Arogyaswami Pillai, B.A., Secretary, placed before the meeting the financial position of the institution. There was lack of funds, there was want of Government grant. It was decided to terminate the services of the Principal on a month's notice; Mr. Norton Fagge, Principal, was appointed to this post only a few months ago and now draws a salary of Rs. 500 a month. Mr. K. S. VaithianathaIyer, M.A., B.L., Vice-Principal will act as Principal.

The American College, Madura.—The anniversary and prize-giving of the American College was held recently in the College Hall, Tullakulam, with Rao Bahadur W. L. Venkataramayya, District and Sessions Judge, Ramnad, in the chair. The hall was filled to its utmost holding capacity. Mr. A. R. Knapp, the Collector of Madura, was also present. The Malayalam song, sung to the accompaniment of music, was much appreciated. Scenes from Sheridan's Rivals were also enacted, which elicited applause from the audience. The Rev. W. M. Zumro presented the Report, from which it appeared that the College hostel was completed at a cost of Rs. 35,000 of which Rs. 16,800 was met from Government grant, Rs. 15,000 from America, and Rs. 3,000 from friends in India. About Rs. 6,000 worth of books was added to the library; a sum of Rs. 6,000 was spent on furniture and on improving the equipment of the Science Department.

The total expenses for the year came up to Rs. 55,743, of which about Rs. 20,699 was met from fees, Rs. 15,955 from Government grants, and Rs. 22,220 from friends in America.

The report also mentioned changes in the College Staff and concluded by remarking that the success of the Institution was, to a large extent, due to the combined work of the entire staff. Mrs. Clinch next distributed the prizes. The Chairman, in the course of his concluding remarks, congratulated the authorities of the College on the all-round progress of the College during the year. He was greatly impressed with the many-sided activities of the American Madura Mission which embraced not only the education of boys, but also the education of girls and medical work amongst men and women carried on most successfully. Missionary effort in India had contributed more than any other thing to the better understanding of the European character by the Indian peoples. The missionary in India was a very valuable asset, and the Government had repeatedly recognised the admirable work that the Missions had done for India. The National Anthem was next sung, and with the usual vote of thanks the function terminated.

Madura Girls' School.—The annual prize-giving of the Government Girls' School, Madura, was held recently in the School hall with Miss E. M. Bower, Sub-Assistant Inspectress of Schools, Trichy-Madura Range, in the chair. There was a good attendance of the gentlemen of the town. A very interesting programme was gone through and 'Kummi,' 'Action Song' and 'Dramatisation of a Story' should be particularly mentioned. The Headmistress presented the report for the year 1913-14 which stated that there were 189 girls at the beginning of the year and 198 at the end and that the children took much delight in garden work and in the dramatisation of stories.

Miss E. M. Bower was next garlanded and flowers were distributed among those present. With the singing of the National Anthem, the function terminated.

MYSORE.

Wesleyan Mission High School, Bangalore.—A distribution of prizes to the pupils of the Wesleyan Mission High School in the City took place, the Yuvaraja of Mysore being in the chair. Addressing the students, before the ceremony of the distribution the Yuvaraja said:—I believe I am expected, as is usual on such occasions, to say a few words on this happy occasion; but, beyond expressing my thanks for the warm reception of the Principal, the teaching staff and the students of the Wesleyan Mission High School, in the venerable hall of learning of 80 years' standing, and the pleasure it always gives me to meet and reward the pick of our young men. I wonder if I can say anything which has not already been a hundred times told. I think I should rather welcome the situation which leaves so little room to originality or ingenuity in any other case, I fear. I would have had not quite an easy task to face. There is one thing I can readily allude to which bears any amount of repetition; I mean the commendable missionary enterprise and its extent and sincerity. We see that in many fields of human action the Christian Missionaries have been the pioneers. It is they that have opened our first schools and our first hospitals and it is no wonder that this school should have been the first institution in Bangalore, and perhaps, in the whole province, to have brought the West close to us. It speaks to the great sincerity and ability of the executive of the school. It now only remains for me to distribute the prizes to the successful among you, and congratulate the happy youngsters.

Arya Balika Patasala.—The annual distribution of prizes to the students of the Government Arya Balika Patasala, Bangalore, took place on Tuesday, the 8th September, 1914 at 5-30 p. m. H. H. the Yuvaraja of Mysore presided on the occasion. The School hall was filled to its utmost. Among those present being the Councillors, the I. G. of Education and many other important persons.

After the programme consisting of Welcome Song, Vocal and Instrumental Music, Recitation, (English and Canarese) and Reading of the Report by Srimathi Vengadamma, Hd. Mistress, was gone through, H. H. the Yuvaraja delivered an interesting speech.

With the distribution of flowers, etc., to the audience and the singing of the National Anthem, the pleasant function came to a close.

BOMBAY.

Agricultural Education.—At the Agricultural Conference held at Poona in September 1913, Mr. W. W. Smart, I.C.S., then Director of Agriculture, suggested a scheme to be adopted in the Presidency similar to the one organised in Ireland by the Department of Agriculture. His proposals were referred to a strong sub-committee, and this sub-committee's recommendations were unanimously accepted by the Conference after they had been thoroughly discussed. The recommendations are briefly as follows:—A law should be passed empowering District Local Boards to raise at their option agricultural rate of one pie per rupee on the land revenue every year, or, as an alternative a rate of one anna per rupee not more than once in 12 years. By the same law Government should be bound to contribute a sum equal to the proceeds of the rate. The joint fund thus formed should be handed over to an Agricultural Committee constituted as follows:—One member to be elected by each Taluk Local Board from its members, a number equal to the total number of Taluk representatives to be elected by the District Local Board from its members and an equal number to be nominated by the Collector from the persons specially interested in agriculture. The Agricultural Committee so formed should expend the joint fund on schemes approved by the Agricultural Department, but otherwise should possess exclusive control of the fund. Lastly, when 10 districts out of the 19 in the Presidency proper have formed committees, a Council of Agriculture should be formed after the Irish model.

The Governor in Council recognizes that the scheme if adopted would provide an unique organization for the spread of agricultural education and improvement. Its chief advantage lies in the fact that it seeks to enlist the co-operation of the people. No increase in the staff of the Agricultural Department could achieve the same results, because it would be an attempt to solve the problem from without instead of from within. Similarly, Agricultural Associations have proved to be unable to carry out any systematic work owing to lack of staff and funds. But at the same time it must be fully realized that the scheme involves an increase in taxation. The increase is not large, being only 1/12th of the existing local fund cess, which in its turn is only 1/16th of the land revenue assessment. Signs are not wanting that money comes in freely when solicited for objects of a strong local interest.

One speaker at the Conference gave examples of persons coming forward in the East Khandesh District to subscribe 2, 4 and even 8 annas for each rupee of land revenue for local educational purposes, and Rs. 40,000 were actually subscribed in the Chogda Taluk alone. Again representations have already been received from cultivators in the Thana and Kolaba districts expressing their willingness to pay 13 instead of 12 pies per rupee of land revenue as local fund cess if Mr. Smart's scheme is put into practice. Nevertheless the Governor in Council would hesitate to empower Local Boards to raise taxation by the levy of an agricultural rate without first striving to obtain as wide an expression of opinion as possible from all those likely to be affected. The comments and criticisms of the public are therefore invited.

ALLAHABAD.

Objects of Elementary Schools.—Sir James Meeson has passed orders on the recommendations of the Committee of Primary Education which sat last year at Nainital under Mr. Justice Piggott's presidency. The orders deal with the question of constitution and location of primary schools, provision and pay of teachers, curriculum of education for special classes, school buildings and hygiene, aided and indigenous schools, girls' primary schools, control and inspection, finance and general aspects. His Honour says during the course of a long resolution that on account of financial limitations, the task of the Committee was to consider the means of securing the attendance of roughly 800,000 boys at public primary schools in the place of an enrolment at that date of something under half a million. Elementary schools shall fulfil two definite objects: (1) The schools must not be so designed as necessarily to make pupils discontented with and averse from pursuing their ancestral callings which with the vast majority are all that they can possibly look to for their maintenance in life. (2) They must give boys such education as will have a lasting influence on their intelligence and will equip them better for their work in the world. Any system of primary education which fails in these aspects is either treacherous to the people or the gravest waste of their money or both. The position is that between 80 and 90 per cent. of the boys leave school at what is called the lower primary stage that is from the second class or earlier, and it is incontestable that this vast number of children carry nothing away with them which is of any lasting value. For the future, therefore, the lower primary will cease to be a recognised stage in the system of elementary education.

INDIA (GENERAL).

Muhammadan education.—The following communique is issued:—In reply to the Government of India's circular letter, dated 3rd April 1913, on the subject

Foreign.

of Mahomedan education some of the local Governments have put forward proposals. The Government of India in pursuance of a policy there laid down gave during 1912 and 1913 allotments to the Chief Commissioner, North-West Frontier Province, which have permitted grants to be made to the Islamia College, Peshawar, of over three lakhs non-recurring and forty thousand rupees recurring. On the strength of replies received from Local Governments the Government of India have also allotted ten thousand rupees recurring in Central Provinces and fifteen hundred rupees recurring in Coorg for proposals of Muhammadan education. The Madras Government have made considerable demands for scholarships for Muhammadan elementary board schools including girls' schools and Maktabas, secondary schools for Muhammadans and additional Muhammadan inspecting staff. The Government of India are allotting thirty thousand rupees recurring during the current year for these purposes which sum is over half the recurring grant asked for. They are now also allotting a grant of twenty-six thousand rupees during the present financial year for the improvement of the Islamia College, Lahore. It is proposed to raise this grant to thirty thousand rupees in future years. In Bengal the whole question is under consideration by a committee. Replies are awaited from other local Governments and administrations.

Professor Bose's success.—Interest is being evinced by the medical profession in the researches of Prof. J. C. Bose on the action of drugs upon plants. Representatives of the Royal Society of Medicine visited his laboratory recently to witness the reactions on the plant-body caused by various stimulants, anaesthetics and poisons. Among these visitors were the President of the Royal Society of Medicine, Sir James Reid, Physician to His Majesty the King and Sir Lander Brunton whose researches in medical science are classical in Europe. Sir Lander Brunton is of opinion that some light upon the effect of various drugs and poisons on animals would be thrown by observing their effects on plants. But hitherto no means of investigation on this subject had been devised.

He expressed his appreciation of the delicacy of Dr. Bose's apparatus.

As a result of this visit Prof. Bose has been invited to give an address to the Royal Society of Medicine. The last occasion on which a foreigner was invited to address this Society was when Prof. Metchnikoff visited England. The well-known scientific journal *Nature* devotes ten columns to an illustrated synopsis of Prof. Bose's recent discoveries.

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The Educational Review.

There seems to be plenty of "go" in the Mysore Educational Department. Not a month passes but there is some reorganization, some conference, some new rules promulgated, some new scheme started. This time the Inspector-General has taken up the improvement of higher female education. He notes that "notwithstanding the efforts made in the past there is still a very wide field left for the promotion of female education, only about 27,500 girls being under instruction out of a total school-going population of nearly 4¼ lakhs of girls, or 6¼ per cent. For the promotion of female education both in extent as well as in efficiency it is, in my opinion, necessary not only to establish more girls' schools or offer more facilities for the education of girls along with boys in the primary stages, but it is also necessary to place the Maharani's College on a basis of wider usefulness as well as to give facilities for higher training to the pupils of a number of other institutions in the State, provision being also made for the imparting of such industrial training and training in subjects of domestic economy as come within the sphere of girls." To secure these excellent objects, the Maharani's College for Girls has been reconstituted as an institution for higher education primarily. Till now it has been weighted by an overheavy Primary Department which has now been excised from

it. There is still attached to it a "Training Branch" and we wish the State could see its way to reconstitute this as a separate Training School for School Mistresses. Another valuable measure is the constitution of a hostel for girl pupils at Mysore, on the basis of the well-known Widows' Home, managed so long by Rai Bahadur A. Narasimhiengar. Under the peculiar social conditions of India, a hostel is a very much more necessary adjunct to Girls' Colleges than even to Boys' Colleges. The hostel will be under the supervision of a European lady and the general management of a committee of five ladies and two gentlemen. A third achievement is the raising of the Government Girls' School at Bangalore into an Upper Secondary School with provision for the teaching of English. English teachers are also proposed to be added to the staff of seven other girls' schools in the State. In addition to all this, provision is made for the teaching of occupations suited to women, such as needle work, string work, lace work, straw work, wax work, bead and wire work. The total cost of these proposals will add Rs. 20,884 per annum to the State's expenditure on female education. Mysore, like Travancore, is far ahead of British India in the matter of the organization of the education of girls. One important reason why female education is so backward in British India is that in each province, all educational control is concentrated in the hands of one Director of Public

Instruction whose first duty is to conduct the departmental routine work, whose second duty is to foster primary education, whose third duty is to supervise secondary education, whose fourth duty is to keep a firm grip on University education, whose fifth duty is to develop female education and whose paramount duty is to act as Educational Secretary and General Adviser to Government.

The development of *Post-graduate* work in Madras has been so far confined to the arrangement for the delivery of *pre-graduate* lectures to Honours students on such subjects as colleges cannot provide lecturers in. There have besides been arranged some general lectures by learned professors of first-grade colleges intended for nobody in particular and not directed to any practical end. No research students have been taken on hand and guided in their work. In Bombay they do this thing in a much more useful manner. These arrangements are being made for the appointment of professors of high distinction "principally to organize and carry out research, secondarily to train students in the work of research, and thirdly to give lectures in which the professor not only would teach students but would give to the public indications of the results of his work." This is the real function of a University and not merely to pass B.A.'s year after year. The Syndicate of the Bombay University fully realizes the importance of the encouragement of *real* research work, for

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besides the above professors, there will be appointed Readers, selected from distinguished European scholars who will not only deliver lectures but would conduct direct supervision of students' work during the course of their lectures. The subjects which the University of Bombay desires its post-graduate workers to specialize in are (a) Oriental Classical languages (b) General and Modern History, (c) Sociology and Economics, (d) Philosophy. We cannot understand why Science subjects have been excluded from this list. Research work in Philosophy may, we think, be left alone, for such work is already being done, perhaps more than necessary, by various Indian scholars without any special encouragement from the University. It is the paramount duty of the University to stimulate the interests of Indian pupils in Physics as opposed to Metaphysics. The Indian mind takes to philosophy as naturally as the duck takes to water. But it is scientific study and scientific research that will help the real advance of India in the path of modern culture and enable India to take its rightful place among the nations of the world.

A perusal of the scheme of the Bombay University for the development of University Post-graduate studies reprinted elsewhere in this issue will be found interesting.

Sometime ago we referred more than once to the revolution in teaching methods associated with the name of the Italian lady,

A Montessori conference.

Doctor and Anthropologist, Madame Montessori. Nothing has been done in India either to expound the Montessori doctrines or to experiment on Montessori lines. But in England the Montessori methods have been kindly received, so much so that an unique conference of Montessori workers was held from July 25-28 in the sea-side village of East Runton, Norfolk, where reside Mr. and Mrs. Bertram Hawker, the pioneer workers in the Montessori movement in England. The aim of the conference was "to draw together in a spirit of fellowship, and under pleasant holiday conditions, those interested in the education of the child from the Montessori standpoint of self-development under sympathetic guidance in an atmosphere of freedom; to link up the isolated experiments which are being made on these lines in various parts of the country; to compare the results obtained, and discuss the problems which have arisen in the attempt to apply the Montessori principles; to encourage pioneering work, especially in the direction of child emancipation, and the keeping of careful records; to unite educationists in a movement for freeing the children of the country from useless and cramping restriction and devitalizing pressure into the channels of mental, moral and spiritual growth, and in general to consider how best to unfold the latent energy and capacity for good in every child." Our readers will remember that we do not attach so much importance to the apparatus of the Montessori method, which can scarcely be used

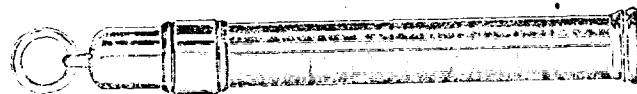
in the training of Indian infants but in the principle of the method, which consists in the self-education of each child, his growing "in his own way and at his own pace, freed from the tyranny of irksome rules and uniform class exercises, but assisted by a carefully devised environment and gentle guidance." Though devised for infant-education, the Montessori principle is applicable to all stages and subjects of education. At the conference this was illustrated by the exposition of the rhythmic method of teaching music by Dr. T. H. Yorke Trotter, Principal of the London Academy of Music. We hope that some enthusiastic teachers in India will experiment on Montessori lines and that this will lead to the emancipation of the children in our schools. The real difficulty here is that all our masters are the victims of an educational organization, Prussian in its rigidity and without any elasticity in it.

Prof. Bateson presided over the meeting of the British Association for the Advancement of Science which met this year at Melbourne and Sidney. The presidential speech is an epoch-making one. It sketched the advance of Biology far beyond the position to which Darwin led it fifty years ago. Much of the fundamental position of Darwinism, for example, that spontaneous variation among animals and plants constitutes an unlimited bank wherefrom the biologist can draw unhesitatingly,

that natural selection is constantly operative on all minutiae of variations and always forging new species out of old, has been broken down during this period. Following on the experiments on sweet peas conducted many years ago by an obscure monk of the name of Mendel, Bateson and others have analysed to some extent the laws under which heredity works. The practical applications of the knowledge thus obtained are far reaching. "The popular notion that any parents can have any kind of children within the racial limits" has been found to be an error. "The descendant is not, as he appears in the conventional pedigree, a sort of pool into which each tributary ancestral stream has poured something." This is because it has been found that the distinctions between individuals of one type, though "sometimes very great and affecting most diverse features of organization, are due to the presence or absence of elements, or factors as we call them," which are conceived as separate entities. "These factors and their combinations produce the characteristics which we perceive. No individual can acquire a particular characteristic unless the requisite factors entered into the composition of that individual at fertilization, being received either from the father or from the mother or from both, and consequently no individual can pass on to his offspring positive characters

which he does not himself possess...with little hesitation we can now declare that the potentialities and aptitudes, physical as well as mental, sex, colours, powers of work or invention, liability to diseases, possible duration of life, and the other features by which the members of a mixed population differ from each other, are determined from the moment of fertilization; and by all that we know of heredity in the forms of life with which we can experiment we are compelled to believe that these qualities are in the main distributed on the factorial system." The doctrine of *égalité*—that all men are born equal and inequality of development is caused by unequal opportunities—on which was based the French Revolution, has received a rude shock from the researches of the Mendelians in the problems of heredity. "Inveighing against hereditary political institutions, Tom Paine remarks that the idea is as absurd as that of an 'hereditary wise man,' or an 'hereditary mathematician,' and to this day I suppose many people are not aware that he is saying anything more than commonly foolish. We, on the contrary, would feel it something of a puzzle if two parents, born mathematically gifted, had any children not mathematically gifted." Prof. Bateson discusses various other deductions from the principles of heredity when applied to the past and future of human civilization, which we have no space to refer to.

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THE MODERN THEORY OF RATIONAL AND IRRATIONAL NUMBERS.*

1. *Historical Introduction.*—The theory of rational and irrational numbers which I propose to explain to you this evening is of comparatively recent development and hence the epithet 'modern' applied to the theory. This theory is the outcome of an attempt on the part of mathematicians to place mathematical analysis on a rigorous and purely arithmetical foundation, i.e., a foundation

* An abstract of a lecture delivered before the Mathematics-Science Section of The Madras Teachers' Guild, by Mr. P. V. Seshu Aiyar, B.A., L.T., Professor of Mathematical Physics, Presidency College, Madras.

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freed from all notions derived from the idea of measurable quantity (any extensive magnitude is considered foreign to pure arithmetic; and measurement is necessarily inexact); the fractional, negative, and irrational numbers being so defined that they depend ultimately upon the conception of natural integral numbers. This movement for placing analysis on an arithmetical basis has been rightly called 'arithmetization.'

The origin of the movement may be traced to the call for rigour in mathematical methods made in the beginning of the 19th century by the great mathematicians of that age, viz., Gauss, Lagrange, Cauchy, Abel, &c. These great men finding that many paradoxes and results obviously wrong had been obtained by the methods held in good repute in those days called for a critical revision of the foundations of mathematical analysis and the critical movement inaugurated by those mathematicians found its greatest exponent in Weierstrass and it is chiefly due to his writings that one may boast to-day that modern analysis is based on secure foundations and that its methods have even surpassed the justly famed rigour of the ancient Greek geometers.

Weierstrass has shown that, in order to place analysis on a satisfactory basis it is necessary to go to the very root of the matter and create a theory of rational and

irrational numbers based on purely arithmetical and perfectly rigorous foundations; and the great mathematicians: Weierstrass, Dedekind, Cantor, &c., have, after a good deal of labour and thought, eventually succeeded in creating such a satisfactory theory. Now as a preliminary to an explanation of that theory let me begin with a review of our knowledge of the nature and properties of natural numbers.

2. *Natural Numbers*—As regards the natural numbers I do not propose to enter into a discussion of the nature and proper definition of 'number.' Such a discussion may be more appropriate in a philosophical essay than in this mathematical one. But I take it that you all know what is meant by a natural number and would only like to add a few remarks just to enable you to analyse your notion of number.

The idea of number presupposes or implies:—

1. The idea of a collection or aggregate of distinct objects. By a distinct object is meant an object which is so far distinct from other objects as to be recognised as discreet and identifiable.

2. A comparison of collections or aggregates with one another depending upon the notion of correspondence.

This notion of correspondence may be explained thus:—Two aggregates may be such that to each element of either aggregate there corresponds one and only one element of the other aggregate. Such a correspondence between two aggregates is called an one-to-one correspondence and is said to be perfect. For example, if at a public meeting, you have a chair for every person present and every chair accommodates one and only one person, then, the aggregate of persons present and

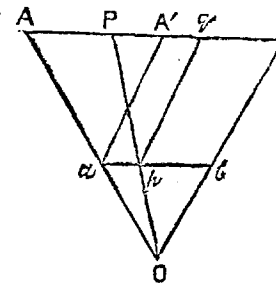
the aggregate of chairs are said to have perfect or one-to-one correspondence.

Two aggregates having perfect or one-to-one correspondence between them (the aggregate of persons present and the aggregate of chairs in the above example) are called *similar aggregates*. Two such similar aggregates are said to have 'the same number.' In saying so we do not define 'number' but only 'same number'; in other words, whatever 'number' may mean, two such aggregates are quite *similar* in respect of number. And if two aggregates A and B have not that perfect correspondence between them, they have not the same number.

This notion of correspondence does not involve the operation of counting nor does it pre-suppose the notion of number. We have in our daily life such instances of correspondence where you have not the process of counting nor the notion of number involved. Take the case of a number of people congregating for a 'Santharpanam' (a distribution of alms) say, each is given, a four-anna piece and the money taken out for distribution is just exhausted. Here the aggregate of people is put into an one-to-one correspondence with the aggregate of four-anna pieces taken out for the distribution and there is no counting operation involved. P. E. B. Jourdain remarks that "we should not think that this (one-to-one correspondence) implies that we have already the idea of the number one. It is true that 'one and only one' seems to use this idea. But 'the class (class is used in the sense of collection or aggregate) a has one and only one member' is simply a short way of expressing " x is a member of a and if y is a member of a then y is identical with x ." It is true also that we use the idea of *unity* or the individuality of the things considered.

This *unity* is a property of each individual thing while the number 1 is a property of a class."

Note.—An aggregate may be such that it may put into one-to-one correspondence with part of it, e.g., the points of a straight line. In the adjoining figure OAB is a triangle, P is any point in AB and OP cuts ab which is drawn parallel to AB in p and pq is drawn parallel to OB; aA' is also drawn parallel to OB.



Now corresponding to any point P in AB there is one and only one point p in ab and corresponding to any point p in ab there is one and only one point P in AB. Thus the aggregate of points on AB and the aggregate of points on ab are in one-to-one correspondence with one another. Again corresponding to any point p in ab there is one and only one point q in $A'B$ and to each point q in $A'B$ there corresponds one and only one point p in ab . Thus the aggregate of points in $A'B$ are in one-to-one correspondence with the aggregate of points in ab . Since to every P there is one and only one p and to every p there is one and only one q and *vice versa*, it is clear that the aggregate of points on AB and the aggregate of points on $A'B$ are in perfect or one-to-one correspondence.

Such an aggregate, i.e., an aggregate which can be put into one-to-one correspondence with a part of itself, is called an *infinite aggregate*. All aggregates which are not infinite are called finite aggregates. In this article we exclude infinite aggregates from our consideration.

3. A classification of finite aggregates into sets or classes of similar aggregates. We next imagine finite aggregates classified into sets or classes of similar aggregates (by means of comparison based on the notion of correspondence described above) with a block assigned to each class of similar aggregates thus having different blocks for different classes of similar aggregates. The kind of classification meant here was illustrated by a reference to a garden party where the guests were accommodated for refreshments in different blocks according as they liked to eat 'singly,' 'in pairs,' 'in trios,' 'in tens,' 'in dozens,' &c.

With these preliminary notions implied in the idea of number, viz. (1) an aggregate of objects, (2) notion of correspondence, (3) classification of finite aggregates into classes of similar aggregates; 'number' itself may be defined as a common characteristic of all members of a class of similar aggregates. Modern symbolic logic has however found that for its purposes the class itself is the best representative of the common characteristic of the class. Hence number is generally defined as 'a class of similar aggregates.'

Having dwelt a little upon the concept of number we proceed now to arrange the numbers or classes of finite similar aggregates in some order. If two finite aggregates (say, A and B) are not similar then they have not the same number, but in such a case we can put one of them (say, A) into one-to-one correspondence with a part of the other (B) and we say that the number (a) of the aggregate A 'precedes' or 'is less than' the number (b) of the aggregate B; and the number (b) of the aggregate B 'succeeds' or 'is greater than' the number (a) of the aggregate

gate A. With this definition of 'less than' and 'greater than' we can arrange the numbers, (i.e., classes of finite similar aggregates) in a series in which each is greater than the preceding number and is less than the succeeding number and we have the sequence of natural numbers 1, 2, 3, 4, 5.....

We may denote the sequence of natural numbers by the letter I. With regard to this sequence we may remark:

1. that the numbers form an endless sequence arranged in a certain order; i.e., if a and b are two different numbers, one of them, say, a precedes the other b . This we express by saying that a is less than b or that b is greater than a or in symbols $a < b$ or $b > a$.

2. that to every number of the sequence there is a next number.

Operations on Natural numbers:

Addition.—Suppose we have two aggregates A and B whose numbers are a and b and which have no common member. Let C be a new aggregate formed by combining the two aggregates A and B, i.e., let C be an aggregate such that (1) every element of A is an element of C, (2) every element of B is an element of C, (3) every element of C is an element either of A or of B; then the number c of the aggregate C is called the sum of the numbers of the aggregates A and B, i.e., the sum of a and b . The sum of a and b is denoted by $a + b$. Thus in symbols we have $a + b = c$. The operation of finding the sum of two numbers a and b is called the operation of addition.

It should be observed that the sum of two numbers a and b can only be defined as above, by referring to aggregates of which a and b are numbers and then combining those aggregates and cannot be obtained merely

by contemplating these numbers themselves as abstract concepts. The number of the combined aggregate is then conceived of as the result of a symbolic operation, denoted by the sign '+', upon the numbers a and b .

Note.—The operation of addition may be repeated any number of times: thus the sum of $a, b, c, \dots, k$ is a finite number represented by $a + b + c + \dots + k$; and any natural number n may be regarded as the sum $1 + 1 + \dots + 1$ where 1 occurs n times.

We may easily show that the operation of addition thus defined is (1) *unique* (i.e., the sum of two numbers is uniquely determined when the two numbers are given) (2) *commutative* (i.e., the sum is independent of the order in which you take the numbers; in symbols $(a + b = b + a)$). (3) *associative* (i.e., $a + (b + c) = (a + b) + c = a + b + c$, etc.). (4) *monotonic* (by this is meant that there is a certain relation between the operation of addition and the relation 'less than' denoted by the symbol '<', viz., that if two numbers a and b are in the relation $a < b$ and x is any number then $(a + x < b + x)$).

Multiplication.—This may be defined as repeated addition; the sum $a + a + \dots + a$ where a occurs b times is called the product of a by b and is denoted by ab ; and the operation of finding the product of a by b is called multiplying a by b .

As in the case of addition, you can easily prove that multiplication is (1) *unique* (2) *commutative* [i.e., $a \times b = b \times a$, etc.]. (3) *associative* [i.e., $a(b \times c) = (a \times b)c$, etc.]. (4) *distributive* [i.e., $a(b + c) = ab + ac$, etc.]. (5) *monotonic* [i.e., if $a < b$, then $ax < bx$, if x is a natural number].

Subtraction.—The result of subtracting b from a is defined to be the number satisfying the relation $a = b + x$. Thus subtraction is the

inverse of addition. But when $a \leq b$ no such number x exists in the system I.

Division.—The result of dividing a by b is defined to be the number x satisfying the relation $a = bx$. Thus division is the inverse of multiplication. If, however, a is not a multiple of b no such number x exists in I.

Thus we see that, if we limit ourselves to the number system I, while the performance of the operations of addition and multiplication is always possible, that of the inverse operations is limited. And it is this limitation, any limitation to the generality of theorems or proofs being abhorrent to mathematical instinct, in performing these operations that has led in each case to the creation of new numbers. The limitation in division has led to the creation of what are called 'fractional numbers' and that in subtraction to 'negative numbers.'

(To be continued.)

THE ILLUSION OF EXAMINATIONS.

THE spirits of Raja Ram Mohan Roy and Mountstuart Elphinstone, Lord Macaulay and Sir Charles Wood must surely be greatly distressed in Heaven at witnessing the gradual degradation of broad and liberal education, of which they laid the foundations, into a mere scramble for success in various examinations. And really it could not be otherwise in the natural course of things. For a long while, the supply of men educated on Western lines was small, and these men were naturally preferred for Govt. appointments to their uneducated brethren. Their promotions were rapid and in society they were taken to be invested with a certain indescribable dignity. The fathers of many of us entered

Govt. service after learning up to the 5th or 6th standard in a high school; and the few fortunate B. A.s were quite comfortable from the very beginning of their career, many hoping shortly to be mamlatdars, looked upon in those days as virtual governors of talukas. No wonder, then, that passing examinations became the common goal, and education came to signify a means of securing a lucrative appointment, the school being a factory for turning out matriculates, the college one for turning out B. A.s. The best teacher or professor came to be he who boiled and digested text-books for the benefit of students and gave them ready-to-hand notes to be crammed and committed to paper in the examination hall. To-day, the word 'teacher' does not produce the smallest notion of reverence in the public mind. Now that the market has been flooded with graduates and matriculates who seem to be fit for nothing if not accommodated somewhere as clerks, the purpose of education has come to be discussed. This has also been necessitated by the fact that the student, whose education only meant cramming for examination, is found to be incapable of shining in a practical career. It is not his fault. What is necessary for success in practical life is not the remembrance of so many pages of English or History or so many sums in Arithmetic, but the formation of certain habits of thought and work. Has the boy a capacity to grasp things? Is he careful in his work? Is he diligent and industrious? Will he do his duty whether the eye of a supervisor is constantly on him or no? Is he able to think for himself? That boy succeeds in life who has been so trained that he can give a satisfactory answer to these and similar questions. But how is he to receive

this training? The teacher of English sees that he knows the meaning of so many pages of his reader; the History teacher sees that he remembers so many facts of a particular reign; the Arithmetic teacher sees that he gets correct answers for particular sums. How a boy sits, how he stands, how he arranges his books, how he mixes up Arithmetic and Algebra, Sanskrit and History and what not, in the same note-book, how he scribbles without margin or date, how he works out a sum with blank figures written in any manner and unintelligible to himself the next day, how he takes pride in saying that he plays the whole year and reads till midnight for a fortnight before examination, these and a thousand other things of like nature are, of course, too insignificant to be attended to! They are insisted upon only by a punctilious headmaster who delights in teasing the poor teachers, who will not allow his assistant to doze in the chair even when the boys are writing their copy! Yet it is these little things and these little remarks that are every moment forming the boys' character for better or worse. The subject-teachers teach their subjects, but the formation of character is nobody's subject. It is really, or ought to be, everybody's subject. If it is left merely to the moral educationist, the poor fellow will be unable to show any tangible results. But if every teacher realizes that on him lies the responsibility of forming the boys' habits that will be their glory or doom in after-life, he will cheerfully do all the little innumerable tasks of setting the boys right in the thousand details—to them unimportant owing to their ignorance of the effects—he will be glad to mix with them on the play-ground, which is a better field than the class-room for the formation of character. Such a teacher will

create a love of learning and of labour in the boys' minds, he will inspire reverence, he will be remembered through life. Boys will be proud of the school where they had such teachers.

Numbers:—This kind of work is certainly impossible when a teacher has 50 boys in his class. 25 would be the best number but the latter should certainly not exceed 30. We at present look very much to the quantity, not so much to the quality. We take pride in saying that a particular school has 1300 boys on the roll. We have yet to learn to think that 300 boys with habits properly formed are better than 1300 boys who have only been taught to pass examinations. Of course, we want as large a number of properly trained boys as possible, but quality must always stand before quantity.

Examiners:—It is alleged that a change for the better can only be brought about by improving the system of examinations. The system certainly needs improvement. We want examiners to form a just estimate of the boys' abilities and not merely mark question after question, add up the marks and declare the boy to have failed because he gets 3 marks less than the number required. We also want questions set that will find out whether the boy has really grasped things. The examiner can also see if the boy does his work neatly and systematically. But we must remember firstly, that intelligent note-makers, bent on abusing their intelligence for the sake of money, can successfully baffle the ingenuity of any examiner; and, secondly, that, after all, the examiner sees only a little of the boys' habits of thought and work. Examination is only an evil, but, for the present, a necessary evil. We surely long for the day

when our high schools will be in a position, by their first-hand acquaintance with the physical, intellectual and moral progress of boys, to certify them themselves and inspire public confidence in their certificates. As things are at present, however, the examinations must stand. That does not mean that they should entirely possess the teacher's mind. It is possible, if there is the will, to coach students up for examinations, and at the same time to see that they grow up to be honest, industrious, regular and intelligent workers, with a desire to grow wiser and more useful every day. Prospects and promotions are meet rewards, but they cannot create this will; an effort to create it must be made while a man is under training for the teacher's profession, and if the effort fails, the man should simply be relieved of his duties. I lay particular stress on high school teachers because a boy is most impressionable while he is reading in a high school, and the habits he then forms often cling to him through life. When he gets into a college, he has false notions of dignity and is extremely impatient of efforts at correction in the little details of his thought and work. And again, the large majority of boys will always have to go out into the world without going through the colleges, which makes it necessary that their school education should be such as will make for success in any practical career.

Time:—Another attempt at excusing the inefficiency of school-work is to say that the boys are under the teacher's influence only for 5 or 6 hours out of the day, that much cannot be done during that time, that the formation of good habits must really be the care of parents and guardians. Well, it is highly desirable that all boys should stay in hostels and be under the care of a superintendent

who is both loved and feared, whose eye is always on the doings of all his wards, who is a veritable centre of magic influence. But though resident students under such a guardian are bound to be superior to day-scholars, yet a teacher, who desires to do it, can exert a remarkable influence for good while looking after boys in the class-room and on the play-ground. Again, we must bear in mind that the parents of to-day are only the ill-cared-for boys of yesterday who often do not know their duty; so depending on them means helping the evil to last ad infinitum.

We all feel that there is something wrong somewhere in our educational system as the results do not satisfy us. It is, I think, the want of proper comprehension of the teacher's duty and of a religious zeal to discharge it properly, that is mainly responsible for the ill-results. If we realize it now, we can correct it. Boys educated in the proper sense of the term will make their influence felt in every walk of life, will alter the face of the country. It is this truth that makes the advice His Majesty the King-Emperor kindly gave us, most precious, viz., "Educate, Unite and Hope."

R. M. JOSHI.

A TRIP TO AUSTRALIA.*

Geography:—In the study of Geography whether physical, political, mathematical, or industrial, there are various methods by which a comprehensive knowledge may be obtained; three of the most important being:—(1) knowledge at first hand, obtained by personally visiting places; observing and making

* A lecture delivered by Mr. H. W. Green at the Jubilee Town Hall, under the presidentship of Mr. F. J. R. V. Hunt, Bar-at-Law, officiating Chief Justice, Trivandrum.

investigations on the spot ; (2) by attending lectures illustrated, if possible—given by persons who have visited the place or places that are being studied ; (3) by attending a course of studies given by a teacher who has made a speciality of the subject, combined with a careful study of geographical literature, maps, globes, diagrams, sketches, pictures and models.

With regard to the subject under review this evening it has been my privilege to come under the first category. It is your fortune (or misfortune) to come under the second ; with regard to the third many of those present are privileged to be attached to the educational institutions in Trivandrum, where modern and up-to-date geographical appliances are available, and where we have special teachers in this particular subject.

Holidays :—Shortly before last year's vacation I was rather undecided where to go for my holidays. Should I go to Kovalum or Australia? Kovalum, as most of you know, is a small fishing village some nine miles from Trivandrum. Australia, as you all know, is a Continent some four thousand miles distant. Eventually I decided on the latter. Altogether the journey was about 12,000 miles, and occupied 2½ months, in going and returning.

I must endeavour to take you there and back in a good deal less than 2½ hours ; otherwise, you may find our mode of travelling somewhat tedious.

Quilon :—My journey to Quilon was by motor-bus. This mode of transit is—thanks to the enterprise of a few Travancore gentlemen—quicker and more up-to-date, though, perhaps, not so quiet and picturesque, than the old fashioned method of travelling ; the slow and somewhat tedious journey in a vallom on the backwater.

After spending the night at the Quilon Travellers' Bungalow I was awakened early in order to catch the train which was due to leave Quilon at 6 o'clock.

Railway journey :—Time is too short for me to describe the magnificent scenery of the Western Ghats through which the train passes. Those of you who have never travelled by train must endeavour to do so as soon as the railway to Trivandrum is completed.

A change of trains was necessary at Maniyachi Junction, the last stage of the journey being made by the mail train from Madras.

Tuticorin, which is 150 miles from Quilon, was reached just before 9 o'clock in the evening, the journey having occupied nearly 12 hours.

Tuticorin :—The distance from Tuticorin to Colombo is 150 miles and occupies another twelve hours, the passage being made during the night. Owing to the shallowness of the water at Tuticorin, the first stage of the journey—about 5 miles has to be taken in a small steam launch. The passengers are then transhipped to a fairly large steamer. The sea is often rough and the crossing anything but pleasant. If this happens to be your first voyage you may be inclined to say in the words of the song "Oh! why did I leave my little wooden hut?" This sudden attack of home sickness may be caused by sickness of another kind, an aggravating malady known as *mal de mer* and experienced by the majority of voyagers, young and old.

If you find any difficulty in understanding the meaning of this, just wait until your first sea trip when, no doubt, the meaning, and the feeling, will become self-explanatory.

Colombo :—Arriving at Colombo in the early morning, and having a few hours to

spare, one is inclined to see the sights of the town by engaging one of the many postering Rikshaw coolies who are plying for hire, and whose perception of a visitor is remarkably keen.

Colombo, as you may know, is one of the busiest ports in this part of the world. It is the great central meeting place for steamers and passengers to and from Australasia, and the Far East.

Travellers from the West and Australasia who land here for the first time are usually enchanted with the varied sights and curious customs of Ceylon. Visitors from India and the Far East, on the other hand, would probably be less captivated accustomed as they would be to somewhat similar scenes.

Those of you, who perhaps, owing to caste restrictions or other reasons, have not yet had opportunities of visiting this beautiful island may in the near future find it possible to avail yourselves of the facilities provided by the new railway route via Mannar and Adam's Bridge.

R. M. S. 'Omrah' :—During the afternoon we embarked on the Royal Mail Steamship "Omrah," one of the large steamers of the Orient Line, tonnage 8,000 tons, which had arrived about mid-day from England.

Passengers joining a steamer mid-way on her voyage are, on their arrival, often looked upon, at first, somewhat as interlopers, as the majority of the passengers have become friendly, or, at least, have managed to know something of each other, on the way out from England and the Continental ports.

After securing a berth in one of the state cabins one begins to look around ; to take stock of the steamer and its passengers. There is no need to hurry when once safely on board.

The journey from Colombo to Fremantle

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occupies nearly 10 days. Imagine, if you can, what this means. Water, water, everywhere, no sign of land anywhere for at least nine days. Now and again a steamer may be sighted, possibly several miles away, but there is little chance of communication except by signalling, or by wireless telegraphy.

On the second day we crossed the line—the Equator. It would be far more satisfactory if Father Neptune, a mermaid, or some geographical genius could arise and endeavour to place a red line, or some such distinguishing mark (as we imagined in our early childhood) somewhere in the neighbourhood, as it is difficult to know exactly when the line is crossed. Up till a short time ago various pranks were played on the unfortunate passengers who were crossing for the first time.

Among our fellow-passengers were 150 naval officers and men going out to re-commission the English ships stationed in Australian waters. Others had been on a visit to the old country after, perhaps, many years' absence. Some were emigrants going out for the first time to try their chance in a new land ; while a few were taking the voyage for the sake of their health.

All sorts and conditions of people may be found on board a liner. Not the least in order of importance of travel is the broadening effect it has on one's outlook in life. Coming into contact and rubbing shoulders, so to speak, with people, may be, of superior or inferior intellect and character, of various callings and of different nationalities tends to diminish the prejudice and narrow-mindedness so often found in a limited environment.

Life on board a steamer tends to make one somewhat lazy. The traveller may, however, be indolent without giving that guilty conscience which might possibly haunt him at

home. Also, one is inclined to eat too much and to take too little of exercise. Although there are good opportunities for reading, one seldom reads as much as one expects.

Various games and amusements are provided for exercise, and to while away the time, which otherwise might sometimes prove monotonous. Deck quoits, shuffle-board, card-games, chess and draughts, boxing, etc. Sweepstakes on the daily mileage run by the steamer are taken occasionally by many of the passengers. We had dancing, concerts, and sports—for which special committees were formed. Prizes were awarded to the winners of the events in the various competitions.

A small orchestra is usually provided to enliven the proceedings.

A cricket match was played between the 1st and 2nd class passengers under rather different conditions than those prevailing at Lords, or the Oval, in London.

A tug-of-war between the naval men and the passengers proved very interesting; the former, as was to be expected, won easily.

Boat, fire, or emergency drill takes place about once a week when all hands employed on the ship are mustered, each man having his allotted place and duty. One realizes the importance of this in view of the terrible calamities attending the sinking of the "Titanic" and the "Empress of Ireland."

A church service is held on Sundays, the Captain officiating if no *padre* is available.

Incidents which may appear trivial on land, often cause amusement, and sometimes, excitement on board. Among the passengers was an elderly Scotsman who was going to Brisbane and back for his health. It appeared that on returning to the vessel after going on shore at Toulon, he was stepping from the

boat to the ship's ladder when he slipped and fell into the water. After going down to inspect the fish at the bottom of the sea he returned and was rescued. He was afterwards nicknamed the "diver" to which he strongly objected, saying "it wasn't much of a joke, I can tell you, I couldn't swim." Usually the stewards of the steamer are very civil and obliging (not, perhaps, without a thought to the expected tip at the end of the voyage). We had one exception, however, in the person of an old deck steward who was particularly surly and crotchety, at times, who on one occasion when asked by one of the passengers to name a certain promontory, replied "you buy an Atlas, and jolly well find out for yourself."

An object of interest was a crow that had followed the steamer from Colombo. After losing sight of land it had alighted on the rigging where it remained until capture by one of the passengers. It was afterwards put under training with a view to giving trick performances later on.

There were several theatrical and music hall artistes on board, among them being a party with about sixty performing fowls. The latter I afterwards saw performing in Sydney. One of the most clever of the fowls rode a small bicycle with a large rooster suspended underneath, across a tight wire, while the others did various gymnastic performances.

The albatrosses which followed the vessel at various stages of the passage were interesting to watch, also, the flying fish, and the porpoises which race in front of the steamer. A few whales were seen spouting in the distance.

We arrived off Fremantle in the early morning, when the inevitable medical examination took place. We had previously

been informed of the case of the lady who had been heavily fined for not attending promptly and punctually when requested to do so. The ordeal of passing the Doctor who had arrived by the pilot boat—was, however, quickly over, in fact it seemed rather a farcè, but quite necessary, I suppose.

Fremantle :—Fremantle, the principal part of Western Australia, is the first and last place of call for vessels going to and returning from Australia. Shipping of many kinds, and belonging to various nations may be found anchored here. The population of the town and suburbs is about 24,000. The streets appear somewhat narrow but evidently sufficiently wide for the electric trams which run to and fro. There is a Government Information Bureau, as in all the principal towns and cities, where travellers and immigrants can obtain any information they require on matters concerning the State. I may mention here that I obtained many books, maps, pamphlets, &c. from various bureaus and shall be pleased to lend them to any one who has special interest in any part of Australia.

Perth :—Perth, the capital of Western Australia, is about 13 miles by rail from Fremantle. The population is about 60,000.

Here one receives a good impression of how municipal affairs are carried on in this land. The streets are wide, with large and apparently well-constructed buildings; also some very fine shops with verandahs in the front forming long corridors where foot passengers may parade in the shade.

Electric light, electric trams, telephones, and all the up-to-date requisites for the comfort and convenience of modern life seem to be here provided.

There are many places of interest in the city, *i.e.*, the Cathedral, the Art Gallery and

Museum, the Botanical Gardens, etc. Luscious grapes were obtained at 3 d. per pound; fruit was plentiful and fairly cheap.

While I was changing some photographic plates in a dark room at one of the large shops, some one unthinkingly turned on an electric white light which, I afterwards found, spoilt many of my plates. Those of you who are photographers can realise my feelings in the matter. We returned by a small steamer to Fremantle by way of the picturesque Swan River—named after the stately black swans gracefully moving about on its surface and which are peculiar to Australia.

Australian Bight :—The journey from Fremantle to Adelaide occupied four days. The passage across the great Australian Bight was fairly pleasant. The sea is usually rough in this quarter, at this time of the year, so we were fortunate in escaping the monsoon that often blows up from the south.

We found that many of our former fellow-passengers had left at Fremantle, while many trippers (interlopers) had taken their place. Among the latter were several mining experts from the Kalgoorlie Gold Field district, who showed us specimens of lode and quartz loaded with gold.

Adelaide :—The outer harbour of Port Adelaide was reached at about 7 a. m. We took train to the city of Adelaide which is about 14 miles distant. This is the capital of South Australia and has a population of about 200,000. It is known to many as "The City Beautiful" and it certainly has a fair claim to this distinction.

The streets are wide and clean, with many fine shops and buildings of good ornamental architecture. The Botanical and Zoological Gardens are well worthy of a visit, also the Art Gallery and Museum.

Adelaide is situated on the banks of the river Torrens midway between St. Vincent's Gulf and the Mount Lofty Ranges. These encircling hills, considered the chief glory of the city—may be reached by motor char-a-banc, as may many other places of interest in the neighbourhood.

The climate of South Australia is delightful and is said to resemble that of Italy. There are 30,000 tons of grapes produced every year in this State.

We were unable to patronise many of the shops owing to our arrival on a Saturday. All the places of business closed punctually at 1 o'clock on that day.

The half-holiday is almost entirely given over to sports and amusements of which the average Australian is inclined to take seriously.

I was standing for a few minutes at a street corner when an elderly man came up to me and said "If it rains, I shan't go?" Somewhat surprised I answered "Go! where?" I shall not easily forget the scornful look he gave on finding one so ignorant of a great event, and also his tone, when he replied, "Why, to the Football Match, of course."

Australian football seems to be a mixture of 'soccer' and 'rugger' with sixteen players aside. I afterwards attended an important match in Melbourne, but found some difficulty in following the game. Some 12,000 persons were present. On one or two occasions over 40,000 spectators paid for admission, while in England 120,000 is about the record.

Women as well as men attend these matches in Australia and appear to be particularly keen on the game.

After returning from an enjoyable ride into the suburbs on one of the electric trams, a friend and myself were about to enter a restaurant to partake of strawberries and cream when we noticed the clock pointed to the hour of the train's departure. After hurrying away to the station we were somewhat annoyed to find that after all we might have satisfied our palates as the clock was half-an-hour too fast.

We arrived back at the harbour in good time when we again found many new passengers.

The journey from Adelaide to Melbourne occupied two days. The weather was chilly, the sea rough, and the passage anything but pleasant. Seagulls followed the steamer most of the way.

Melbourne:—Port Melbourne was reached in the early morning where we left the ship after passing the Customs officials. Friends were awaiting us, and in a very short time we were safely lodged in our respective quarters in the city.

Melbourne, the capital of Victoria, and, at present, the political capital of Australia, lies on the river Yarra at a distance of 5 miles from its mouth.

It was founded in 1835, and named after Lord Melbourne, the then Prime Minister of England.

It has a population of about 600,000 and is, in importance, the eighth city in the British Empire.

The whole of the city has been carefully planned; it is noted for its fine symmetry, the streets being parallel, or, at right angles to each other.

It is at present the headquarters of the Governor-General and the Federal Govern-

ment, and also of the State Houses of Parliament of the Victorian Legislature.

Splendid architecture is displayed in many of the public buildings, ecclesiastical edifices, and business premises; among the most striking being Parliament House—the present seat of the Federal Legislature in which are housed temporarily the State Houses of Parliament; Treasury Buildings; the National Art Gallery, Museum and Library; the Anglican and Roman Catholic Cathedrals; the Town Hall, and the Central Railway Station.

This latter place is a particularly busy spot. The record number of passengers who passed on one occasion through this station in a single day is over half a million.

The Block in Collins Street is another busy thoroughfare on most afternoons of the week.

St. Kilda is a fashionable sea-side resort, with all kinds of amusements and entertainments during the season. It is easily reached by rail or tram, the latter passing along a very fine road with gardens and motor-car track on either side, with Government House and the Botanical Gardens in the distance.

The tramway system in part of the city has room for improvement. The cable cars are somewhat out of date, and the charges might be made more uniform. For instance, one has to pay three pence to ride down Collins Street while the whole journey down the adjoining streets is only one penny. It is small consolation to a visitor to be told that by buying a book of tickets—which he possibly may not have time to use—he could travel much cheaper. Waiting half-an-hour for a horse tram to the Zoo, is not quite an up-to-date proceeding.

There are several well-built Theatres in the city, where good performances by English and Australian Companies may

be witnessed. Many favourite English actors, singers and artists make a tour of Australia periodically. Melba, Paderewski, Kabalik, Oscar Ashe and Lily Brayton—whom I saw acting in Sydney—and many others.

The new Auditorium, with a seating accommodation of 2,400, was opened by Madam Clara Butt while I was in Melbourne. Harry Lauder is touring Australia this year, I believe.

After a pleasant week spent in Melbourne, seeing the sights, and spending one or two evenings with friends in the suburbs I accepted an invitation to visit friends at Harcourt, some seventy miles distant.

On reaching the small country station, I found a horse and conveyance awaiting me by which I was driven to my destination, a distance of about three miles, where I spent a most enjoyable time on a fairly large fruit-farm, gathering, sorting and eating apples—the latter occupation predominating. There are some famous granite quarries in the neighbourhood; also a largereservoir, which is part of a scheme of irrigation.

Irrigation, I might mention, is making huge strides in different parts of Australia. Millions of pounds having been spent, a huge dam constructed in New South Wales has a capacity of 33 million cubic feet of water.

A glimpse of the Australian bush may here be obtained. There are hundreds of acres of partially cleared land, with dead trees, and blackened and rotting stumps, the remains of the devastating bush fires that periodically occur.

I cycled one day to the interesting little town of Castlemaine, some eight miles away. I was hospitably entertained by the Headmaster of one of the State schools, who

showed me round the town, the Educational institutions, the market, and places of general interest.

Time would not permit me to stay longer in Harcourt, though I had a pressing invitation to prolong my visit.

I may mention here that hospitality is one of the noted characteristics of the average Australian, of which I had many opportunities of proving correct. Class distinction is almost unknown, especially in the country districts. The work-people often dine with their employers and converse freely with them.

Bendigo:—Bendigo is a picturesque inland city about 100 miles from Melbourne. Population about 45,000. It is the premier gold-field of Victoria, and is known in that State as "The Forest City" on account of its 120 miles of streets having varying shady trees planted on either side.

Bendigo is claimed to be the largest city in area in the world, and is noted for health, wealth and beauty.

It possesses the deepest and richest mines in the Southern Hemisphere, having added 70 million pounds of gold to the wealth of the world. I was privileged to go down one of the richest mines. After descending several hundreds of feet we were conducted along dark and narrow channels for a considerable distance. I was allowed to work one of the machine drills that are used in preparation for blasting. I brought away a specimen of quartz, but how much gold it contains has not yet been ascertained. The battery, where the quartz is crushed and the gold extracted, was of special interest.

Having previously been given letters of introduction to many Government and Municipal officials in various parts of Victoria and

New South Wales, I had opportunities of visiting institutions, which otherwise I should not have had. Through the kindness of a Justice of the Peace, and an Inspector of Schools, my short stay in Bendigo was interesting and instructive. We visited a Benevolent Institution which, I considered, was certainly an improvement on the work-house system in England. We paid a visit to one of the State schools where Manual Training, or Sloyd, as it is sometimes called, was being taught. I was asked to address the boys whom I found extremely attentive and interested in the doings of the boys of India and especially of those in the schools of Travancore.

We visited the School of Mines and the Technical School in the evening. In the Engineering Class the students were making a $3\frac{1}{2}$ horse-power engine. Classes in Manual Training, Building Construction, Chemistry, Physics, etc., were well attended.

Next morning I was taken over one of the large Jam factories. Hundreds of large tins of pulped apples, pears, and various other fruits were awaiting final preparation for transference into smaller tins. Apples are sliced by machinery at the rate of about a bushel in ten seconds. Tins were made, stamped, and soldered by machinery. I was given several samples of jams which I afterwards found to be some of the best I had tasted. The Town Hall was inspected during the morning. After visiting the Watch Tower—where a man is constantly on the look out for fires—and taken a birds-eye-view of the city I took train for Ballarat.

Ballarat was reached about 9 o'clock in the evening after a somewhat slow, cold, and tiring journey. After a night's rest at one of the hotels I sauntered out to view the

sights. The first purchase I made was a pair of gloves. It was nearing the winter season and the atmosphere felt chilly to one just arrived from India.

Ballarat is a large inland city with a population of about 50,000. It is known as "The Golden City," "The Garden City" and "The City of Statues." The streets are excellent. Sturt Street is certainly one of the finest I have seen. It is nearly 200 feet wide and nearly three miles long. It is really two streets running parallel to each other, with garden and lawn plots, interspersed with statues, laid out in the centre.

A good service of trams enables one to view the city quickly and from many points of vantage. The Botanic Gardens is one of the chief attractions, and is specially noted for its statuary. The Statuary Pavilion contains "the Flight from Pompeii," which is acknowledged to be the finest piece of marble statuary in the Southern Hemisphere. It is said that the Italian sculptor, Bonyon of Rome, at one time, refused £4,000 for it. Other statues are also here, of exquisite workmanship. Among other places of interest are the Art Gallery, Colleges and Schools, School of Mines and Industries, Technical and Art Schools.

Gold was discovered here in 1851. Since then its mines have yielded gold to the value of 80 million pounds. In the early days of gold mining diggers were allowed a small patch of ground, about the size of a grave, on payment of a sum of 30 shillings a month. On this sum being raised to £3 a month riots took place which the military and police had great difficulty in quenching.

Shortly after gold was first discovered a period of wild excitement followed. Men of all castes, grades, and professions; of good,

bad, and indifferent characters rushed to the field of operations in the hope of amassing fortunes. In the words of Mark Twain:—"A hundred thousand people poured into Melbourne from England and other countries in a single month and flocked away to the mines. The crews of the ships that brought them flocked with them; the clerks in the Government offices followed, so did the cooks, the coachmen, the butlers, and other domestic servants; so did the carpenters, the smiths, the plumbers, the printers, the editors, the lawyers, the clients, the bar-keepers, the black legs, the thieves, the grocers, the butchers, the bakers, the druggists, the nurses; so did the police; even officials of high and hitherto envied place threw up their positions and joined the procession."

Among the many large nuggets of gold found here was the "WELCOME" which weighed 2,217 ounces and was sold for £10,500.

Geelong:—On returning from Ballarat to Melbourne we spent an hour or two at Geelong, a seaside resort, where a considerable amount of commercial activity seems to be in combination with much holiday enjoyment.

Return to Melbourne:—Another week was spent in and around Melbourne. I had an interview with the Director of Education and the Chief Inspector, who gave me letters of introduction to various schools and educational institutions. I spent a pleasant time with the Educational Editor, whom I also met in Sydney, who gave me one of his Geographical Books, and who has, since my return, kindly sent me several educational journals.

Later on, I travelled with a Doctor of Science who was on his way to England to

make final arrangements for the British Association Meeting which is taking place this year in Australia. I met, also, a member of the Maunson Expedition who related many thrilling incidents connected with Antarctic exploration.

I visited the Melbourne High School where boys and girls were being educated together. Manual Training formed an important part of the curriculum.

I might mention that Manual Training is well organised throughout the State of Victoria, I afterwards met the organiser, who, like myself, was formerly in London, when we were able to exchange mutual confidences and experiences.

The Working Men's College, the Junior Technical School and other institutions were afterwards visited, the detailed description of which I must leave for a future occasion. I was taken over the Government Mint by one of the Chief officials who kindly gave me detailed information connected with the working of this important institution. On asking for a sample of their workmanship, I received a polite refusal. I was shown a collection of coins of the world among which were those now current in Travancore, several of which I was asked to correctly name.

Tasmania:—From Melbourne I journeyed across the Bass Straits to Tasmania. The passage was taken by the S.S. "Rotomahana." I do not know if it would be considered a libel if I said that the first syllable, suggests, somewhat, the properties of this vessel, but it certainly suggests the nature of the voyage. The journey occupied about 12 hours, and was very rough and disagreeable. When the chairs began to tumble over and the crockery fell from the tables we thought it was time

we turned into our cabins. The passage up the river Tamar on the following morning was, however, delightful.

Launceston:—Launceston, where we stayed for a few hours only, was reached about mid-day. A visit was made to the famous Gorge.

Launceston on the river Tamar, is a fair-sized seaport town in the north, with a population of about 15,000.

Across Tasmania:—We took train to Hobart, in the south, journeying right across Tasmania, a distance of a hundred and thirty-three miles. A motor car was also available at certain seasons, I understood.

The train passes through some magnificent scenery, the undulating nature of this land with its rivers and forests making many varied and picturesque views.

Hobart:—Hobart is the capital city of Tasmania, with a population of about 40,000. The Harbour is considered one of the best natural harbours in the world.

Mount Wellington, which is 4,166 feet above the sea level forms a magnificent background. The buildings of the city, which include the Town Hall, the Art Gallery and Museum and several others compare very favourably with those of similar sized cities in Australia.

The Tourist Bureau Agency provides brakes, char-a-bancs and motor cars, to enable visitors to visit the many delightful places of interest in the neighbourhood, e.g. the Springs, Mount Wellington, Brown's river; the Derwent Valley, the Huon river, etc. There are also river excursions to New Norfolk and other places. Large fruit orchards and hop-growing fields may be viewed in passing. Tasmania is noted for its fruit farms and especially for apple growing. During the year 1911 over

1½ million cases of fruit were shipped from Hobart. I visited one or two friends who were living in Hobart. One was an old gentleman, 84 years of age, who goes to the office nearly every day, and who still manages one of the largest firms in the town, of which he is the proprietor. Some people live to a great age in Tasmania. A story is told of a traveller who, as soon as his ship reached a new port made an immediate inspection of the nearest grave-yard. If the tomb stones indicated death at a ripe old age, he settled down for a while; if the opposite, he at once passed on, having no desire to leave his bones with those whom the gods loved, and who had died young.

Tasmania, the Island State of the Commonwealth, is, as you know, named after Tasman, the great Dutch navigator, who first sighted the island in the year 1642.

It was formerly called Van Dieman's Land, in honor of Governor Van Dieman who chose Tasman to captain the ship which was sent out on the voyage of discovery. Doubtless at an early period this land formed an annexe to the mainland.

The area of Tasmania is about 26,000 square miles, with a population of nearly 200,000.

There are many large and small lakes on the island, the "Great Lake" being 28,000 acres in extent.

Formerly many of the immigrants landed on these shores had been sent out from England at the expense of Government.

The less a visitor has to say on this subject, the better. There are several books however, which throw a light on this delicate subject, which you would find extremely interesting, e.g., "For the Term of His

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Natural Life" "the Broad Arrow" "the Story of Martin Cash" etc.

Hobart to Sydney:—I embarked for Sydney on the S.S. "Westralia." This part of the journey occupied two days. The N. E. Coast line of Tasmania is very rocky. The huge rugged rocks we passed adding a beauty of their own to the landscape. The system of lighting at various points on the coasts by means of Light-houses, Buoys, etc., is always interesting to travellers. One method of illumination is that of the incandescent petroleum installation. A bright white light of $\frac{3}{4}$ of a million standard candle power is shown, a flash of half a second duration being given every 5 seconds. A remarkable acetylene light has been invented which works automatically and can, it is stated, be left to look after itself for 12 months without any attention.

During our passage the weather was rainy and chilly, and the sea somewhat rough. I was not at all sorry when we arrived at the Heads—the entrance to Sydney Harbour.

Sydney Harbour:—One of the first things an inhabitant of Sydney is said to ask a visitor is "Have you seen our Harbour?" There is a story told of an individual who had collapsed during a state of inebriation who, when roused by a policeman, remarked:—

"Don't worry me. I have seen your old harbour."

This, of course, is what one hears in Melbourne; there being much rivalry (friendly for the most part) between the inhabitants of the two cities.

The Harbour of Sydney, known as Port Jackson is, however, considered by many to be the finest harbour in the world both for beauty and convenience; though this distinction is often claimed for the harbours of Rio and Auckland.

As the steamer passes up the main harbour the view of the surrounding suburbs, bays, coves, and the city in the distance, is delightful. The harbour has, altogether over 200 miles of frontage; its area being about 15 square miles.

The great Ocean liners from all parts of the world are able to anchor close up to many of the numerous wharves which are situated close to the city. Yachting and sailing, rowing and sculling, and polo, frequently take place in the Harbour and the adjoining water ways during the seasons.

Sydney:—Sydney, the capital of New South Wales, was founded in 1788, and named after the then Home Secretary. It has a population of nearly 650,000, thus having the largest population of any city in the Commonwealth.

There is a sharp contrast between this city and Melbourne. The latter is said to owe all its greatness to man, while Sydney owes much to nature. The streets are narrow and winding in many parts but, as if to counteract this, there are many splendid parks, gardens, and large open spaces beyond. Some of the buildings are very fine. The Post Office; the Town Hall; the two Cathedrals, Anglican and Roman Catholic; the Market buildings, which by the way, I believe, are somewhat of a "white elephant," the Art Gallery, the Museum, the Observatory, etc.

A good service of trams and ferry boats connect the city with the suburbs. Many facilities are provided by which the numerous places of interest may be visited especially those reached by way of the harbour. Government sanction has been applied for to build a Cantilever Bridge over part of the Harbour at an estimated cost of 2½ million pounds. The Hawkesbury river—Australian

Rhine—trip, and manly for surf bathing may be especially mentioned among the many attractions.

Places of amusement abound in this city as in most of the cities and towns in Australia. Theatres, Music Halls, Cinematograph palaces, etc., seemed to be well patronised. Horse racing is carried on to a large extent in this country; in fact, sports of all kinds have enthusiastic followers. One large Billiard saloon in Sydney has 40 full-sized billiard tables in use. Chess and Draughts, especially the latter, have many patrons. On one occasion I counted 12 men standing around watching a game of draughts being played in one of the parks.

Blue Mountains:—After spending a week in Sydney I journeyed to the Blue Mountains, some 80 miles distant. A great centenary celebration was taking place on the day of my arrival, to celebrate the first crossing of the Mountains by the explorers Blain, Wentworth and Lawson, in 1813. The Governor and the Premier with many officials, the military, the cadets, about 1,500 school children, and thousands of people took part in the ceremony at Mount York, a few miles from Mount Victoria.

In the evening a chain of bonfires were lit, at various points, which stretched for miles around.

After spending the night at one of the hotels at Mount Victoria, I decided to visit the famous Jenolan Caves, about 36 miles distant. These stalactite caves and grottoes with their glistening pendants and crystals of dazzling brightness are, perhaps, the most fascinating and widely known objects of interest to visitors to New South Wales. An illustrated account [of these is given in] the "Wonders of the World."

Motor Car Accident:—The morning was miserably wet and dreary, and the roads were in a deplorable condition owing to a frost on the previous evening. We started by motor-car, with two other passengers besides myself and the driver. On rapidly rounding the corner at the bottom of a fairly steep hill the car skidded on the wet and greasy road, turned sharply at right angles to the road, struck against two huge boulders and turned completely over with all the four of us pinned underneath. Fortunately, the accident occurred near a house. The owner of the latter, with his wife and children, rushed out immediately to our rescue. With the aid of a long wooden lever we were eventually extricated.

If the accident had happened a few minutes later we should probably have been miles away from any habitation and it would have been impossible for us to have extricated ourselves. To add to our danger the car was liable to catch fire at any moment. We were taken into the house and kindly looked after by our rescuers, who ministered first aid, until the arrival of a doctor who had been telephoned for from Kattoomba, some 20 miles away. One of the passengers had one of his ribs slightly dislocated; the driver, who had been unconscious part of the time, the other passenger and myself had all marvelously escaped with slight bruises and a severe shaking. After staying several hours and being interviewed by the mounted police, a priest, and several others, we returned by a special car to Kattoomba having abandoned the idea of visiting the famous caves. The next day I felt like an old man of 90 and could scarcely hobble about. However, after a few days' rest I was able to visit

a few places of interest in the neighbourhood after which I returned to Sydney.

Return to Sydney.—On returning to Sydney I put up at the Hotel Metropole, where I had previously been staying. This is a very large hotel with good board and accommodation and compares favourably with any of the large hotels in England. The federal elections took place while I was at Sydney. Members for the Senate and House of Representatives were elected from all the States of the Commonwealth. Exciting scenes were witnessed in the streets of the city as the results became known. Suffragette depredations are unknown here as women are entitled to vote. Australia being a democratic country places no obstacles in the way of women, and opens the legal, medical, and other professions to both sexes on equal terms. Women are also in the minority, there being 111 men to every 100 women. Labour strikes are of frequent occurrence in different States. The question is often asked of a visitor "Did you strike the strikes?"

I interviewed the Director-General of Public Works, the Director of Public Instruction and several other Government officials. I was taken by the Chief Inspector to one of the large Evening Continuation Schools, where the youths of one class recited pieces from Shakespeare. Classes in Drawing, Science, Manual Training and Cookery were being held. The girls of the Cookery class provided us with a nice little supper before our departure.

The following day I visited the Training College and schools, also a State School where I was kindly shown over the Infants, Girls, and Boys' departments.

Kindergarten, Paper-folding and Cutting, Brush-drawing, Dress-making, etc., were

included among the various subjects of the school curriculum. Manual Training was also being introduced, a special teacher having been sent to England to make a study of the modern methods of this important branch of instruction. I was invited to hear the boys sing; the teachers having ascertained that singing was not taught generally in the schools of India.

The singing of the Australian and British National Anthems, and one or two part songs were very well rendered, the boys having evidently been well trained and under good discipline.

Canberra:—Canberra, the new Federal capital of the Commonwealth, is being built about 300 miles from Sydney, and will be situated in the State of New South Wales. It is being designed on the most modern principles, and should, when completed, be one of the model cities of the world.

Brisbane:—Time would not allow me to visit Brisbane, the capital city of Queensland. This, I believe, is another fine city, with a population of about 200,000. Queensland is said to resemble, somewhat, the climate of India. Sugar growing is one of the great industries of this State.

Before we close I should like to mention a few important facts concerning the Continent generally, although many of you may already be acquainted with them.

The area of Australia is about 3 million square miles, or nearly twice the size of India.

The population is between 4 and 5 millions, or about 1/70 of the population of India.

The distance from East to West is 2,400 miles. From North to South 2,000 miles.

There are no great mountain ranges, as the Himalayas, for instance, the highest point being less than 8,000 feet, or lower than the

highest hill in Travancore. There are 52,000 miles of telegraphs and 7,000 miles of Railway. A great mistake was originally made in not adopting a standard gauge, say (4' 8½") in all the States, an error which to rectify is estimated to cost 12 million pounds.

The climate, which, naturally, has a wide range, is on the whole healthy and dry. The temperature is tropical in the north and warm even in the extreme south.

The average rainfall on 2/3rds of the Continent is 10 inches a year. On 1/3rd, the average is 20 inches a year.

One somewhat inaccurate observer has somewhere said in speaking of Australia:—

"The trees shed their bark and not their leaves; the fruits have their stones growing outside; the birds have no song, the flowers no scent, and the animals lay eggs."

Rabbits were imported into the country some years ago since when they have become a pest, being reproduced by the million.

The Kangaroo, as you know, is a native of this land. It has been known to jump over 40 feet. Practically all the native animals of Australia are marsupials, i.e., the females carry the young in a pouch.

Many of the trees, especially those of the gum or Eucalypti species, often grow to immense size, one tree it is said, being 480 feet high, with a circumference of 53 feet, and must be one or two thousand years old.

400 years ago this Continent was unknown to Europeans. It was taken possession of on behalf of Great Britain by Captain Cook in 1770.

The country is extremely rich in gold,—which has been, by far Australia's greatest advertisement—silver, coal, copper, tin and iron.

Within the last 55 years mineral wealth to the value of nearly 700 million pounds has been produced.

Australia is a pastoral, agricultural and mining country; possibly before many years it may be classed as a manufacturing country also.

It is at the present time pasturing 84 million sheep, 10 million oxen, 2 million horses, and one million pigs. Many horses are imported into India each year from Australia.

It may not be generally known that the commercial relations between India and the Commonwealth—in imports and exports—amount to over 2½ millions of pounds per annum.

Over three million pounds worth of butter is sent annually to London; the cold storage system making this possible.

30 million pounds worth of wool, and two millions of pounds worth of frozen lamb and mutton are exported yearly.

Immense wheat and arable lands are under cultivation. There are good openings for farmers and others who have a small capital and who are not afraid to work.

Slackers, loafers, and geniuses in work evasion are not wanted and are not encouraged in this country. Good wages are given to willing and competent hands. Skilled mechanics earn from £3 to £4 per week. General labourers from £2 to £3. Farm hands—for which there is a demand—obtain from 20 to 30s. per week and keep. General servants from 15 to 25s. per week and keep.

The tendency here, as in England and elsewhere, is for men to make for the larger towns in search of employment—thus, often, over-crowding the labour market—while in

many places, workers are badly needed on the land.

The Northern Territory:—The Northern Territory consists of about 333 million acres and is the only large unpeopled tract of habitable country in the world. It is about 1/4th of the whole Continent. You may take up there a pastoral lease at a rent of six pence per square mile if you will agree to run 1 million sheep, or 200,000 head of cattle on that great area. The rainfall is only 6 or 7 inches per year; occasionally droughts occur with no rain for 12 months, or two years.

Education:—Education, as regards the State schools, is free, compulsory, and non-sectarian; and is carried to a high standard of efficiency. Illiteracy is almost unknown in the Commonwealth. Every facility is given to students to obtain technical and advanced instruction in any branch of industry, through the expert knowledge imparted at the State Colleges, Technical Schools, and Schools of Mines. A special school for boy immigrants has been instituted in Western Australia. A scheme of universal conscription has been adopted throughout the Commonwealth. The majority of youths, after reaching a certain age—12 to 13 as junior cadets, and 14 to 18 as senior cadets—undergo a compulsory military training for the national service. The scout movement is also advanced. An Australian navy—the ships being manned by Australians—is being negotiated, several vessels having already been completed. These have now been provisionally handed over to the British Admiralty for service in the present great war in Europe. Australia has also patriotically volunteered to send 30,000 men to assist the mother-country during this unparalleled crisis.

Y. M. C. A.:—The Y.M.C.A. is doing good and useful work amongst the young men in

various parts of Australia. A national alliance is affiliated with the world's alliance of Y.M.C.A.'s, the associations being from time to time strengthened and their efforts furthered by visits of the general secretaries. There are over 400 members in Ballarat alone.

The Aborigines :—Much could be said and written about the aborigines of Australia but for the time being, a very short description must suffice.

These are said to be less than 100,000 in the whole of the Continent, and the race is fast dying out. There is not a single aboriginal now living in Tasmania. There are two volumes of books entitled "Across Australia" in our Public Library if any one is particularly interested in the subject.

In the States of Victoria, New South Wales, and South Australia the remaining aborigines are mostly collected in camps, and are under the direct protection of the Government.

Among the quaint and primitive weapons still used by these people the Boomerang is one of the most interesting.

After another week spent in and around Sydney visiting many places of interest and being, again, hospitably entertained by friends, I embarked on the R. S.S. "Orvieto" of 12,000 tons register, for the return journey home. Hundreds of people came to the steamer to say Good-bye to their friends. As the steamer left the quay long streamers of paper ribbon were reeled off thus making the last connecting links between the passengers and those left behind.

On the return journey we stayed two days at Melbourne, and about six hours at both Adelaide and Fremantle.

As a description of the journey home would necessarily be somewhat similar to that

already described I think I will leave you at Fremantle, either to come home, in imagination, in our steamer, or to make a longer stay in this wonderful and progressive country.

"THE TEACHER AND HIS CALLING."*

Introduction :—Though a teacher thinks that he is a man of the world, as he should be, that he knows something about everything, no body gives him credit for it. On the other hand every body thinks that he is qualified to talk of him and of his profession. You should not wonder if they say that you cannot intelligently talk even of yourselves. My only excuse for having taken up this task is that most of you are teachers and that it may at least interest you, to know the opinions of one who, whatever his capabilities and shortcomings, has been a teacher for a considerable time, has found his task smooth and pleasant and has found no reason to be dissatisfied with his choice.

The general and the special aspects of the subject :—I shall divide my discourse into two portions, the general and theoretical aspects of it, i.e., what the teacher's conception of his calling should be—and the special and practical side of it, i.e., what he should do as a teacher. Under the first head I shall talk to you, of the nature and the importance of the teaching profession, the responsibilities it involves and what he should be, who is to bear such heavy responsibilities, and under the second, of the teacher in relation to his pupils, to the parents, the teacher as an assistant-master, the teacher as headmaster and so on.

The nature of the profession :—The teacher's profession is the most interesting, the most independent and the noblest :

i. *Interesting* :—Shakespeare has said that "Life is as tedious as a twice-told tale, vexing the dull ear of a drowsy man." From the com-

* A paper read before the 'Junior Teachers' Association,' Teachers' College, Saidapet, by Mr. S. Chinnasami Aiyer, Mathematics Assistant, Z. H. S., Kottupuram (on leave.)

parison it is clear that the repetition of things we do, and the nature of the thing or person we deal with mostly contribute to the tediousness of life. Subject to the blunt and simple criticism, "you do not know the intelligent work which an executive officer, a practical engineer or a clever lawyer is doing," I venture to tell you that in most of the professions a routine is to be gone through, the same clerks, the same file of papers; the head officer may be a highly educated man but most of his work is brought to him ready made by the so-called experienced officers under him. It is very few officers who find it practicable to show their intelligence and originality in their work by attending to details. But in the case of teacher, whatever the subject there is no end to the ways of dealing with it, to the fund of information at his disposal, and the variety of illustrations that he might make use of. Besides there is another unique circumstance which makes the teacher's task eminently interesting—he deals with children—fresh, changing, "pert and full of play." Can any one be dull in their presence?

ii. *Independent* :—The profession is the most independent. This is one of the much abused words. Some people think that they are independent if they can do things as they like and when they like. Ruskin somewhere says: "True independence consists in obeying where we ought to, else, the fly is the black incarnation of freedom." But I have used this word in a special sense. I should call a profession independent, if in it there be scope for independent thought and action. In very few professions there is such scope for the display of originality and such respect shown to original thought and action as in the teacher's profession. A young graduate entering, for instance, the Board Office cannot have even a little of his own way of doing things he must strictly follow the routine; he cannot express things in his own way; in short, he must learn business before he can be left to himself.

iii. *Noblest* :—The teacher's calling is the noblest. Of course no calling is in itself ignoble if it is honestly pursued and if its duties are ably and sincerely discharged. But an engineer has sometimes to deal with pilfering contractors, a lawyer, with lying clients, and a judge, with unscrupulous lawyers and confirmed villains. With some people these vices prove to be contagious, with some there very often arises the unhappy necessity to sink themselves low, to the level of those they deal with, temporarily at least, and with the best of intentions. There are many who tower high above such low associations while dealing with them, but even they at times feel their task a little compromising. It is the happy lot of the teacher to be before innocent children, as nearly pure and guileless as God made them and God has made nothing base nor vicious. The teacher's profession is marked out for this unique honour inasmuch as it is the profession which incessantly calls into play everything that is noble in human nature—self-sacrifice, patience, sympathy, contentment, the love of man and the fear of God. A really good teacher never finds his calling the sorriest of trades; but those who find it so, sometimes proclaim it as the noblest of all professions, either by way of apology for their having chosen it, or perhaps as a sort of consolation to themselves.

Importance :—A little thought will make one realize the importance of the teaching profession. Every useful member of society, be he a farmer, an artisan, a soldier or a statesman, to have an intelligent knowledge of his work, must have had some sort of education, i.e., must have had a teacher in himself or others. The countries which have recently risen to the foremost rank among the nations of the world are also the countries which have made marked progress in the education of their children. It is only, of late, that Indian statesmen have fully realized the importance of this primary factor in the making of the Indian Nation, and her great

statesman is now doing his best to advance Elementary Education in India.

Responsibility :—He who chooses teaching as his vocation takes upon himself a very responsible task. In other walks of life, a particular task done in a specified time leaves one free and it matters not what one is, and how one lives afterwards. But in the case of the teacher whatever he does, whatever he talks while at school, or at home or elsewhere, his person, his character, his behaviour, all have something to do with his daily task. Besides a teacher's work does always count. If he cannot do well, he must do ill; if he cannot do good, he must be creating evil. So if one cannot be a teacher, he will be doing a disservice to his country if he persists in it. In this connection we may consider how far the teacher contributes to the progress of a nation. The greatest men of the world do not owe their greatness to a school or a college. They are as it were the land-marks in the history of the progress of a nation. They mark the culmination of national progress during a particular era. For instance the appearance of Newton or Sankara Acharya indicates the high level of scientific and spiritual thought in the preceding era. This naturally leads us to infer that the more efficient the system of education in a country, the greater will be the average intellect and progress and the smaller will be the intervals at which these greatest men appear. For real and steady progress a country must be producing a considerable number of very great men, much above the average. In fact every generation must boast of great men like Gladstone, Asquith, Bismark and Gokhale. A teacher or a professor may have before him a future historian or statesman and by ill-doing his work he may be, to some extent, arresting the progress of his country. True that students do not leave a school or a college as a Bose or a Rash Behari Ghose. But the seed of greatness is sown there; if no seed

is sown no harvest can be made, however fertile the soil might be; nothing can come out of nothing. It is no credit to a teacher to say that men destined to be great will be so even in spite of him; such a teacher has a very poor idea of the importance and responsibilities of his work.

The ideal teacher : (i) *Natural aptitude* :—Some are of opinion that the primary qualities that make one a successful teacher must be born with one. For instance, one cannot be taught to read the child's mind to understand its tendencies and interpret its doings. No one can equip a teacher with the resourcefulness that will enable him to change his mood and manner to suit the different situations in which he will unexpectedly find himself in dealing with young children. In short, a teacher must have a natural aptitude for his work. But this quality is not a very rare gift after all. Every one has this quality in him to some extent. When we talk to each other, we are a little bit of the teacher, inasmuch as we are able to make each understand the other. But when a man takes up teaching as his profession this natural aptitude must stand out in him as a conspicuous quality. It will certainly be an advantage if there be a sure way of knowing whether or not one has this natural aptitude. The least reliable inference, I think, is that drawn when one teaches in the presence of another, with an effort to make the lesson a success and with the fixed intention of being guided by certain rules. When he is left to himself if a teacher is able to read from the face of his pupils that they understand him, if he feels certain of his method as he proceeds, if he is conscious of his defects and if the defects are being remedied every day as a matter of course, he must be a good teacher. Though necessary, this natural aptitude is not itself sufficient to make one an ideal teacher. To give full scope to this natural gift, one must have vast study, professional training and experience.

(ii) *Study* :—A teacher's knowledge should be vast and varied. He should know something of everything and all about something. A teacher's knowledge, particularly of one who has to teach very young children, must be something more than book-learning. For instance, he must have an ear for music, a taste for drawing, he must be something of the mechanic and so on. He must also be well informed of the habits and customs of the people among whom he lives.

(iii) *Training* :—A teacher may have the natural aptitude, the necessary knowledge for imparting instruction but when he actually begins the work of educating the child he feels certain doubts and difficulties, he lacks the ease and excellence which characterises the work of an expert. It is in a training college that he has these doubts cleared, learns to overcome these difficulties and in fact becomes a finished artist.

(iv) *Experience* :—But natural aptitude, theoretical knowledge, professional training—these alone cannot make one a perfect teacher. One may have a knowledge of how the chisel is to be used, how the planks are to be cut to fit them into a particular joint; he might have received practical lessons from a carpenter how the plank is to be worked along the fibre or across it and so on and yet one may not be a good carpenter. He must work and acquire practice; only the work will be the easier for him and he will commit fewer mistakes. Even so a trained teacher is put in the way to become a good teacher; he is warned against pit-falls. He is yet to do the work. His own work in the school-room, his grappling with difficult situations, his contact with the work of other people must make him perfect.

Concluding remarks on the first portion :—I have so far dealt with the general aspect of the subject; there may have been omissions of very important topics connected with it; but as to facts stated there may not be any broad divergence of opinion. There may be slight differ-

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ence, for instance, when I spoke of the independence of the profession, some might have thought of the official control over education; but this does not materially affect the actual work of the schoolmaster. In this connection some may think of the efforts put forth in other countries by way of making the teacher's position recognized, such as the movement towards the registration of teachers as an organized body with privileges especially in the matter of shaping the educational policy of Government. But when I spoke on that topic, I have drawn your attention more to the nature of the profession than to the status of the teacher. Again when I spoke of the happy lot of a schoolmaster in his having to deal with only innocent children, I have not forgotten that some view it in a different way and say that inasmuch as the teacher has always to deal with his inferiors he is in danger of growing into a pedant. When we consider a little closely what is actually going on around us I am inclined to say that there is as much exaggeration in this statement as there is in the assumption that the members of the other professions come in contact with all sorts of people and are generally catholic in their views and modest in their deportment.

Introduction :—Now I take up the second part of my discourse that is the practical aspect of the subject. Here I cannot avoid expressing certain views which are the outcome of personal experience. There must be difference of opinion and I request you to remember that this is a subject where those who differ from us are at least sincere in their opinions though not convincing in their arguments. But I know it is neither profitable nor interesting to listen to the opinions of those who cannot speak with authority on such matters; so I shall be very brief and avoid as much as possible going into details.

i. *The teacher and his pupils*.—Under the topic the teacher and his pupils I shall speak of the kindly feeling between them—the use of the

rod—the training of the senses of the eye and the ear as aids to imparting instruction—the work at home—the intercourse between them.

(a) *Kindly feeling.*—It is essential for the happiness of the teacher as well as for the welfare of the pupils that the latter should love and respect the former. This will be the case when the pupils have no doubt as to the ability of the teacher and are satisfied that he knows his work, and they are no bad judges in this matter. If a teacher is weighed in the balance and found wanting, he surely finds his work at school very miserable; there seems to be no end to his petty worries, not to speak of his own oppressing sense that he is not up to the mark. It is only those who have the misfortune to have an unquiet home that can, in a way, understand the unenviable position of such an unhappy teacher in the class room. I know of teachers who look upon their work as an unwelcome task and feel considerably relieved when they come out of it. The teacher alone is not responsible for this unhappy state of things. It is a common idea that any man can teach any subject to the High School Forms. This principle will work ill even with very capable and versatile teachers; and we have very few such teachers. When compared with the standard of qualifications of Secondary teachers in other countries it must be admitted that the mass of the teachers here are certainly below the average, though there has been, of late, good improvement in the Secondary teachers. Under such conditions it is necessary that a teacher should be confined to the work for which he has a special aptitude or in which he has specialized. In this connection, I should make mention of the undesirable practice in schools of arranging for 'acting work,' which means that one must be prepared to take up any class in any subject at a moment's notice. Even when a teacher shows some hesitation to take up such slovenly work, he is told, "kindly keep them somehow engaged." Such

an arrangement surely affects the general discipline of the school.

(b) *The use of the rod.*—I do not propose to go into the topic of discipline in the class room. It mainly depends upon individual tact and capacity. But I should like to say a few words regarding the punishment of the pupils of the middle forms. In the case of infants and children punishment is unnecessary and the ideal rules can be followed. In the case of older pupils punishment will be of no use. But in dealing with the intermediate pupils teachers do feel some difficulty. It must be remembered that a large majority of our schools are under private management; in most homes the father is busy earning his bread; the mother is uneducated and the care of boys with her means no more than feeding them when they show signs of hunger and scolding them and beating them if they do mischief. I request you to bear in mind that parents are not subject to the educational rules regarding corporal punishment; there is no knowing what the pupils' associations are and how they spend the 18 hours out of school. In this miserable state of things it will be difficult to follow the ideal method of treatment. By this I do not advocate indiscriminate punishment or punishment with a vengeance. I simply want to make the position of the teacher clear in this matter. Even a very clever and tactful teacher is sometimes driven to think whether it will not be more effective to follow some such treatment the boy is accustomed to at home. Is he far wrong in thinking so? I am tempted to dwell upon this point by the recollection of a scathing criticism unconditionally passed upon teachers, a few years back, in the tone of an idealist, by one who might be expected to be aware of the practical difficulties of an Indian teacher in the class room. Some may say there is the Headmaster to inflict corporal punishment, if necessary, but they seem to ignore this simple fact that pupils easily understand a teacher losing his temper a little and punishing

a boy that misbehaves but they cannot easily forgive one who reports against them as they call it and gets them punished; they look upon this as a weakness in the teacher and there is likely to be created a little bit of ill-feeling against him. Besides, the dedication of this function to the Headmaster has in some cases the effect of allowing small things to grow sufficiently big to be a fit case to be brought to his notice. Anyhow I think that the universally known rule, that the assistant-master cannot inflict corporal punishment, unnecessarily lowers the authority of the master in the eye of his own pupils—assumes the complete want of discretion in him—and it is time that the rule is slightly modified so that his discretion is called in question only by the Headmaster.

(c) *The eye and the ear.*—We have been told that it is necessary for a teacher to train his eye and the ear to enable him to maintain discipline in the class room. The Kindergarten methods are slowly getting into vogue in our schools in the training of the senses. I here call your attention more to training the eye and the ear as a means of taking in instruction than to educating the senses generally. Many might have noticed in their classes that boys are more or less deaf and blind. They have their eyes open but they do not see; they seem to lend their ear to you but they do not hear. The organs are not trained to receive correct impressions. I shall attribute this defect in our boys mainly to the system of dictating notes. Our boys now write much more than they hear or see. Even in language classes they care more for taking notes against the future examination than for learning things then and there. In some cases they are encouraged in this practice lest they should not do quite so well as another set of boys who have received the so-called drilling in such matters.

This defect in young scholars generally handicaps the work of the mathematics teacher. If he dictates a question most of the details are in-

correctly taken. They have no eye for symmetry. It matters not whether they take down 250047, 123987 or 242121. If a boy in the highest form of a Secondary school cannot see the symmetry in the form of an algebraic expression, cannot follow a teacher when he indicates simple changes in its form and again if he cannot picture to his mind a simple geometrical figure and cannot follow the teacher's reasoning, I should think that the boy has received very poor training in Elementary Mathematics.

(d) *The work at home.*—Some ten years back the popular opinion about school work seemed to be that it was all work and no play with the scholars and the teachers simply put them in the way; now public opinion seems to point to the other way. Of course, in the case of youngsters there is no necessity for much work at home after intelligent instruction at school for about five hours. But they should at least do at home as much as is necessary to make what they have learnt at school their own. It is generally believed that boys do, in most cases, very little at home except one or two exercises by way of map or geometrical drawing. Perhaps this is the transition stage. Teachers are busy with their own improvement and others also look more to the equipment of the teacher than to the attainments of the scholars. I hope it will not be long before attention is diverted to boys in this respect.

(e) *Intercourse with scholars.*—It is not always expedient nor is it possible for the teacher to explain his attitude towards a boy or again a grown-up boy may not like to be told of his defects in the class room. It will not do to leave the former boy dissatisfied with the teacher's conduct nor the latter in ignorance of his defects. In such cases frequent meetings of teachers and pupils will be of much help. Besides by receiving his pupils in a less formal way and by treating them with marked kindness at home, the teacher becomes popular and the task of maintaining discipline in the class room becomes remarkably easy.

(ii) *The teacher and the parents* :—There are no two opinions about the importance of the co-operation of the teacher and the parents. But I have not known any the slightest organized effort in this direction. I have, for the first time, heard of a serious talk about it here in our college. The reason is obvious; most of the teachers especially of the lower grade are dragging on a precarious existence. It is too much to expect from them even the enthusiasm and intelligent effort necessary to do their daily work efficiently. It is idle to expect them to move in the matter of securing the co-operation of others. There is the corresponding class of parents who have not even a vague conception of this, their most important duty. In the case of parents of the higher class there is the difficulty of the social position of the teacher; I think it is not necessary to be more explicit; and even the teachers who are fully alive to the importance of this, have to think of their self-respect and are slow to solicit the acquaintance with such parents. Let us hope for an improvement in this direction with the growth of popular feeling regarding the importance of educational problems in general and with the spread of social reform movements popularizing 'social gatherings' and 'at home parties.'

(iii) *The teacher as an assistant-master* :—In this connection I may say there are some signs of corporate life among the masters of a school. There seems to be a beginning in the way of assistant-masters forming into associations and attempting to take part in the educational movements of the day. But it seems there is a complete absence of co-ordination in the work of the assistant-masters in a large number of schools. There are, of course, exceptions, for instance, our Model School here. The old state of things continues in the lower forms of a good number of schools; the old middle school or the lower secondary school was a separate organization and had little in common with the high school. There

used to be a considerable difference in the standard of knowledge required of pupils in the IV Form of a high school in a big town and of the knowledge possessed by a pupil leaving the III Form of a middle or lower secondary school. It is this difficulty that has made the authorities to put the incomplete secondary schools of the present day under the guidance of a trained L.T. Even in some of the secondary schools under the new system, there is not a complete co-ordination in the work. There is much talk about the direct method of teaching English, the rational, realistic or regional method of teaching Geography, approximations and graphs in Mathematics mostly in the higher forms and the work in the lower forms is simply going on in its old routine fashion. Naturally the teachers in the higher forms assume a certain amount of knowledge in the students that come up to them; they have their courses of study and detailed syllabuses; there is the bitter complaint of the students' ignorance of some of the very elementary facts and principles. Very little thought is bestowed upon the fact that the students' progress has not been uniform, some links have been missing; the very few who note this exclaim, for instance, "Am I to begin teaching the boys how to mend their pencils?" evidently alluding to the fact that some drawing master, to whom the work of teaching practical Geometry in the lower forms is entrusted, as it is very often the case, would have prepared his boys in his own way to an intermediate examination in geometrical drawing altogether ignorant of what is expected of them in the higher forms. The assistant-master is not responsible for this state of things. But as the result mostly affects his work I have made mention of this here.

(iv) *The teacher as the headmaster* :—In dealing with this topic I shall say very little but there seems to be a good deal of discussion among well-informed persons about the Headmaster and his work. There is the impression that the scope

of his work is very wide and delightfully vague. In big schools manned by able Headmasters, they find the work to be very heavy; some find it almost impossible to do full justice to the work that might be expected of them; and some with very keen sense of duty are troubled with an oppressive feeling of imperfection in their work. Here we see the vastness of the scope of the Headmaster's work. On the other hand in many of the small schools, it is seen that the Headmasters find very little work to do; they have not specialised in any subject; they have full confidence in the special subject teachers and there is very little, in a small school, by way of administrative work. Some people go so far, you may take their opinion for what it is worth, as to assert that either those who have very wide range of knowledge, hence competent to supervise the work of the specialists in the various subjects of the High School, or those who have no special aptitude for any subject, i.e., those who cannot be assistant-masters, have been chosen as Headmasters of High Schools. At any rate there is the impression that the Department might have made the work of the Headmaster more definite just as they have made the duties of the assistant-master clear by their "Hints and Suggestions" and their "Detailed Syllabuses."

Though the Manager and the Inspector have not directly much to do with the work of the teacher I shall say a few words regarding them.

Managers :—As regards managers I have always felt that how it was that those who spent money with very good intentions, should be so very wanting in commercial instinct as not at all to care about what became of their money. They would be doing a very good service to the department and they would add to their pleasure and happiness if they would take some real interest in the work which they are advancing with their money, would now and then visit

their schools and make acquaintance with the masters and children of their institutions.

Inspectors :—As regards inspection in our schools, it is an open secret that many consider it a farce. But these are the very people who almost kill themselves with preparations and with making show of work prior to the inspection. Do we not find people 'idly busy' unhinging the work of the school and making it look as unnatural as possible? If we ask those who consider inspection a farce whether they can dispense with it, they will say that it is as indispensable to the up-keep of a school as the force of gravity to every day life and the presence of the commanding officer to an army. I think it is the school that should make the work of an Inspector a success. *By himself he can do very little.*

Conclusion :—Gentlemen, I have, in a way, told you how the teacher's work is interesting, elevating and independent; how society cannot get on without him; how responsible the teacher's task is; how to become an ideal teacher one must have not only natural aptitude but vast study, professional training and experience; how a kindly feeling between the teacher and the taught promotes the happiness of the one and the welfare of the other; how it is important to train the eye and the ear of the scholars as helps to imparting instruction; how it is necessary to pay better attention to their work at home; how the teacher makes his work at school easy and pleasant by acquaintance with them in his extra-professional hours; how better understanding between the teacher and the parent will help the cause of education; how there should be a greater attempt at co-ordination in the work of the high school; how popular opinion is to be respected by making the Headmasters work more well-defined; and how the schools are to make the inspection work a success by sincerely maintaining a uniform progress throughout the year. Now gentlemen, I conclude and request my friends and co-teachers to remember that upon their good

work the progress of their country depends, that if they fail to do their duty, not only do they arrest the progress of their country but sin against the will of God and that they should be true to their country, to their God and above all, true to themselves.

EVILS OF EXCESSIVE HOME-WORK.*

It seems to be the general opinion that too much home-work is at present demanded of our boys in Secondary schools. The meaning books are unnecessarily large, rough and fair notes are maintained in several subjects and notes are needlessly dictated in several others, with the result that the average student devotes his time almost entirely to writing notes and doing exercises, whose importance is exaggerated beyond measure. Nor is it the student alone that is burdened with this mechanical work, but the teacher also has his back saddled with correction, the most irksome and disgusting portion of his work. Should a philanthropist of our days address himself to the task of lightening the teacher's load, he could not do better than devise means to mitigate the evil of home-work.

In this paper it is proposed to discuss the conditions which ought to decide the amount of home-work that can be reasonably expected of our boys and the maximum correction work that teachers can possibly do. The subject is vaster than it may appear at first sight, as it involves a consideration of the physical and material conditions under which all intellectual work must be carried on in this country. The excessive heat of the Indian climate, the physical weakness of our children,

the poverty of Indian homes, are all factors which have a direct bearing on the question. The European child, inheriting a robust constitution, placed in a physical environment, peculiarly favourable to all sorts of activity, physical and intellectual, and born and bred up in comparatively cultured homes can stand more mental strain; and yet, more scientific methods of education probably exempt it from such pressure as young minds are subjected to in this country. Unfortunately for us, in this country, where conservatism wraps minds and hearts alike, in one icy sheet of dead formalism, new ideas are tardily recognised and grudgingly admitted. We refuse to see; and when we do, we refuse to believe; and when we believe, we hesitate to act. Hence, it is no wonder, that the Kindergarten system, based on sound psychology, is not yet successfully introduced in our schools. The newer methods of teaching, whether of science or of language, have but slightly tintured our procedure. Indeed, we cling to our idols to the last. The old methods continue, and among other things, the number and length of home exercises show a tendency to mount up, in spite of warnings from the Department itself.

Let us, in the first place, convince ourselves that no good can come of excessive home exercises. They are, no doubt, a great encouragement to all dealers in stationery; they perhaps impose on parents the necessity of economy to the extent of the value of the exercise books; they strengthen the faculty of invention in the boys, who, in the absence of the exercises, must bring along with them falsehoods, hot from the brain, as meet offerings to the incensed teacher. Excessive home-work is a great aid to improved handwriting; indeed by this means, it is, at times

improved beyond legibility. It cannot, indeed, be said that excessive work kills students, except in a few cases, here and there; but it successfully kills curiosity and positively deadens the intellect.

From this it is not to be inferred that all home-work is to be proscribed and banished from our schools, although, such a thing would be regarded by many as a consummation devoutly to be wished for. But it cannot be, at least so long as the present ideas and methods of teaching shall endure. We have a right not only to insist upon boys of higher classes preparing for class-work but to call for written evidence of such work; exercises to supplement class-work are perhaps necessary in a subject like mathematics; note books furnish reliable data for headmasters and inspectors to estimate the nature of the work done by teachers; and, above all, they may be useful to the child himself as books of reference at certain times. But that these ends may be fulfilled, they ought to possess certain features, without which they are a double curse, cursing him that writeth and him that correcteth. What human things are there that are not so capable of perversion?

Home exercises ought to be neat, moderate in length and capable of easy correction. If, for any reason, work set by the teacher is not corrected, and mistakes not brought home to the child, it is worse than labour lost. Note-books must be either prepared under the supervision of the teacher or else regularly inspected by him; and if neither of these courses is adopted, great evil results, since these books are used by the child for reference, and if mistakes are not corrected in time they are perpetuated, the child being, so to say,

caught in the snares unwittingly laid by himself.

If then, badly executed written work, at home or in school, leads to disastrous results, it follows that every effort must be made to ensure good and careful execution by the student and diligent correction by the master; and in regard to this it should always be borne in mind that, although in the world of matter the whole is greater than its part, in spiritual things the axiom does not hold and the smaller the amount of work set, the more likely is it to be done well and to lend itself to easy correction. No more should be required by the teacher than can be well done by the student and no more might be done by the student than can be efficiently gone through by the teacher. These, then, are the simple rules that ought to govern the amount of home exercise and we shall now examine them at some length.

Teachers are apt to forget that a large measure of sleep is a physiological need for the child. The world has moved a great deal since the wise King Solomon warned it against love of sleep and our greatest men of medicine have begun to doubt the virtues of lamp-oil and early rising. Again, evenings are sacred to physical exercise and it is a crime against nature to rob physical exercise to pay work. Again, what are we that we should demand Sunday labour of teacher or of child, when we have it on such high authority that God rested from his labours on the seventh day and blessed it and ordained it as a day of rest for man and beast? Be it remembered also that the majority of our boys come from poor homes and that they have domestic duties on the due and timely discharge of which, depend the happiness and comfort of their families.

* A paper read before the Teachers' Association, Christian High School, Udipi, by Mr. B. A. Baliga, History Assistant.

When due allowance is made for these, how much or little time remains for home-work? And if all this is spent in writing how are independent effort and taste for general reading, one of the best gifts a school can give, to be encouraged?

And, again, what time can the teacher devote to correction of exercises and note-books? Professors in Colleges, with larger salaries and fewer periods of class-work, have tutors to look after the work of correction. Teachers in schools are over-worked. After five hours' work of the most tasking nature the nerves cry for relaxation. We are scantily paid; very few of us can afford to hire servants; and we have domestic duties of a nature little suspected by European officers. It would be cruel to expect our baby-wives to look after our baby-children and cook our meals too. It is a fair division—apart from all chivalry—that you must look after the baby while she cooks the meals, which latter cannot be abolished altogether, being such a hoary institution. And so long as India is what she is, this shall be so. Then, there is the preparation of our daily lessons, which, with our revised syllabuses and our rapidly changing methods must occupy a good deal of our time. If, at the top of all, comes correction work in such quantity as to impair the teacher's strength and spirits, his class work is bound to be a failure. 'A light heart maketh a cheerful countenance' and both of these go a great way in ensuring success in teaching; on the other hand heavy work maketh a heavy heart and this must make a sore countenance and this—considered, indeed, to be the badge of all our tribe—must be reflected in our teaching. Nor can we lose sight of the fact, that a teacher must

make provision for self-improvement. He who is not a learner himself, cannot be a good teacher; he who is not daily engaged in the task of overcoming his own ignorance cannot be qualified to assist a tender mind in its efforts at the acquisition of new ideas. The sympathy and insight essential to the work of teaching come only of a daily effort to learn new things and no teacher can afford to be without his own hobby, for which he must either find time or make it.

Teachers, therefore, have a just ground of complaint in this matter; but redress is largely in their own hands. It is a bad workman that quarrels with his own tools; but a good workman knows, among other things, how to mend his tools. Work is heavy so long as the principles underlying it are not grasped; but the moment that these are discovered and obeyed, it not only ceases to be heavy but becomes positively delightful. Experience suggests the means whereby the correction work can be robbed of its horrors, and these will now be briefly indicated.

In Geography, note-books ought to contain little beyond maps and foot-notes, prepared in the class, home-work being, if possible, nil.

In History, besides maps enlarged from books and copied from the teacher's sketches on the black-board the note-books may contain the summaries on the black-board, developed during the teaching. Notes should, in no case whatever, be dictated, it being a safe rule to lay down with regard to the teaching of this subject, that no note-books should be required at all, if the teacher does not use the black-board.

The one subject, perhaps, in which notes should never be dictated, is science, where seeing is believing and experiment is the only

method. But this is possible only where laboratories are complete and teachers have sufficient leisure to prepare for the experiments. In the absence of these facilities notes are dictated, but this, it must be remembered, can, at best, be only a travesty of science. If, however, the facilities mentioned are not wanting the science note-book will be a scientific record of what has been actually witnessed; and divided in the usual columns of experiment, observation and inference, it must render the correction work easy, although, the extreme accuracy required by the subject must make the correction work, to a certain extent, little different from the correction of composition. But whatever excuses may be found for dictating notes in the higher classes, it is impossible to conceive any grounds on which it can be tolerated in the lower classes, where, the practice, if existing, should be peremptorily put down. Natural science, if properly taught, should lighten the child's load and add to the zest of school life; but if it should ever lead to unintelligent cramming, as a result of methods not sufficiently concrete, it will add to the misery of child-life instead of ministering to its delight.

The mathematics teacher has a decided advantage in the matter of correction inasmuch as his work does not include, except to a small extent, the correction of language. The phraseology of mathematics is limited and the work of correction in the class is easier than in other subjects. A subject based on natural principles does not admit of endless variety of error; whereas a human subject like language, so conventional and arbitrary, can be violated in infinite ways.

The most difficult work in regard to correction is composition. If it is not well done, it will vitiate the teaching of all other subjects.

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Ease and facility of expression and a fair knowledge of practical grammar are demanded by Science, by History and Geography and even by Mathematics. While thus the English teacher's work is vitally related to that of his colleagues, it must be remembered that other teachers are all actually co-operating with the English teacher. It is probable that students learn more English in laboratories and in History and Geography classes than in the English class itself. Indeed the direct method of teaching language is nothing but an attempt to substitute thing-teaching in the place of word-teaching, and it need cause no surprise if, in the near future, the language teaching should more and more be assimilated to science teaching until, at last, there should be little difference between the two. If teachers only thought of the living connection that links all subjects together, they would see that divided responsibility is an impossible thing. Is the science teacher alone to be held responsible for science? What if the boys fail in that subject because they are wanting in English? A boy may know how to do a sum but may not be able to read and understand the question. In fact, responsibility cannot be divided and every teacher ought to remember that he is in part responsible for the success or failure of his brethren. If it is the ambition of any school, to distinguish itself in language, the work must be taken up by the whole staff; one man cannot improve, say the pronunciation of a class, when the child hears the same word pronounced in half a dozen ways by as many teachers. The English teacher has a right to count upon the assistance of all his colleagues and much can be done, if, in subjects where the medium of instruction is English the teacher uses the vernacular sparingly.

Oral composition should always precede written composition, boys never being asked to make bricks without straw. Mistakes should only be pointed out, in the first instance; and boys should then be given a chance of correcting their own errors, the corrections being entered on the left page which should be reserved for the purpose. A few mistakes must be selected for discussion by the class and advantage must be taken to explain the principles of grammar underlying the correction. If this work is done thoroughly no separate grammar lesson is necessary.

Now, turning to the English meaning books, these are in many cases needlessly profuse and large. When a good Reader is used in the lower classes, all that need be done is indicated in the book itself. Meanings of hard words are given and grammar, composition, and conversation are all correlated with reading. With such Readers in use, note-books may be kept within reasonable and proper bounds, which is a matter of the first importance. Unwieldy meaning books, apart from the loss of time and energy which they entail in preparation, largely occupy children's time in their cramming. A casual glance into the most carefully prepared note-book will convince one of the enormous difficulty of correcting them, and the greatest danger is that text-books are completely thrown into the shade by these monstrous productions; they are the golden calves which our boys raise in place of the dethroned text-books. To avoid this serious danger it is desirable that the teacher must previously decide what new words shall be taught and which of these shall go to the black-board and thence to the note-book, which should err if at all, on the side of deficiency rather than that of excess.

One other practice, not warranted by

reason, I would refer to, ere I proceed. Rough and fair exercise books are required in several subjects, with what purpose, it is hard to see. If the mistakes and the corrections are in the same book and side by side, the book becomes a sort of hand-book of grammar and idiom and would have its own value as such. The moment the fair book is introduced, the rough book is relegated to a condemned corner and the work of correction is thrown away. The system also puts a premium on half-hearted and slovenly work, since the child knows that the thing has to be done again in the fair book. Whereas, in all written work neatness should be demanded throughout. Written work, especially in the lower classes, should be done leisurely, almost in a religious spirit, as if the thing is to be done once for all and in the full spirit of the counsel, "Whatsoever thy hand findeth to do, do it with all thy might."

We cannot close before inquiring into the causes of excess of home-work. One reason, undoubtedly, is that home-work is not sufficiently controlled in our schools. Anxiety for good results in public examinations, which corrupts the life of education in India and makes it hardly worth the name, is another powerful cause; and lastly lack of sympathy with the joys and sorrows of child-life and ignorance of the home-life of the children.

Time-tables ought to show home exercises and bounds thus set should never be overstepped. The length of home exercises should also be matter for close and constant scrutiny and regular correction should be insisted upon. In the absence of such control, home exercise is apt to be excessive, especially in classes where the professorial system is followed. One teacher is happily ignorant of the burden imposed by

another and each lays his burden with an unsparing hand, until the limit of the proverbial straw is reached. Murmur and discontent are not heard, thanks to our discipline, which transforms our boys into ideal beasts of burden.

Then there is the rage for school percentage which drowns all nobler ideals of education. The teacher is to be hardly blamed if he panders to an ignorant public opinion which has no other tests of judging educational work than the cheap ones furnished by examination results. But are we to wait until public opinion is enlightened? Rather are we not to take in hand the work of educating public opinion itself? Ideals of education should correspond to the needs of a country, and what are the needs of our country at this hour? Surely not the philosopher, with a brilliant University record behind him, confined to arm-chair, an over-burdened intellect in an under-mined body—a result for which Secondary education is largely responsible. A well-balanced education should assist in the bringing up of the animal, the man and the God in us. What a noble ideal, in the realisation of which gymnasiums, cricket clubs, reading rooms and debating societies would play at least as important a part as Algebra and Grammar. The aim of education is to assist in the blossoming of the human flower, a process provided for by mother Nature who has ushered the soul into the world. A thousand invisible teachers surround the child, a thousand influences act upon the blossom, and the best that the most skilful teacher can do is not to shut God's light from it. The child has its own ways of learning the subjects prescribed by Nature, whose eternal syllabuses no human educationist can recast. The child's life 'exempt

from public haunts, finds books in running brooks, sermons in stones and good in every thing.' Our methods should reflect these vaster methods, should never cross them, nay, should be entirely in accord with them. And that is how we shall best serve the needs of our country, by sending out to the colleges or the world, strong young men, with the fountains of feeling and of curiosity opened and not shut up. And percentages must follow the more comprehensive ideal. 'Seek ye first the kingdom of God and His righteousness, and all these things shall be added unto you.' We have no faith, otherwise we should not desert the higher ideal for the lower idol, sacrificing ourselves and our boys to school percentages and like Esau selling a birth-right for a present meal of red pottage.

Lastly, let us remember the scathing words that Christ spoke against the Scribes and the Pharisees and not lay ourselves open to the serious imputations conveyed therein, by demanding from our boys more than we demand from ourselves or more than we can demand of them or by imposing on their shoulders burdens which leave our own shoulders free. Hear the words and ponder over them: 'Beware not like the Scribes and the Pharisees which say and do not. They bind heavy burdens, grievous to be borne and lay them on men's shoulders; but they themselves will not move them with one of their fingers. But all their works, they do, to be seen of men.'

No higher conception can be formed of a teacher's work than to regard it as the work of lightening the child's load. To anticipate the probable difficulties of this child and that in its attempts to understand a lesson, to devise means to reduce the difficulty, to find out the most favourable method of present-

ing a subject, to study and analyse the mistakes of the young learner and point them out in the spirit of sympathy and, above all, to add sunshine to its life,—this is a teacher's work. Let us once again hear Christ—for Christ is one of the world's greatest teachers, whether you consider the substance or the method of his teaching,—‘Come unto me, all ye that labour and are heavy laden, and I will give you rest. Take my yoke upon you, and learn of me; for I am meek and lowly in heart: and ye shall find rest unto your souls. For my yoke is easy and my burden light.’ No ideal was ever clothed in words of more exquisite beauty; nor is any higher ideal conceivable in education.

THE TEACHING OF ENGLISH IN LOWER FORMS.

VARIOUS methods have been devised for teaching a foreign language. English is a foreign language to us Indians and as such, it can also be taught according to different methods. Of all those methods, which is the best method? Why is that particular method considered to be the best? How can English be taught successfully in the lower forms of an Indian school by adopting that particular method? To answer these questions will be the aim of these few pages.

Which are the methods that were and are generally used to the teaching of English to Indian children? Students of good olden days were taught English by the Alphabetic method. According to this method, the pupil is first taught the names of the letters and then proceeds to spell the word orally before pronouncing it. This method was condemned as an unnatural one by persons

of great eminence and learning, and nowadays this is not adopted in any school at all.

Now, we shall turn our attention to the Phonic and the Phonetic methods. We had to take recourse to these methods owing to the numerous disadvantages of the English language. In this strange language, there are 26 letters, but altogether, there are 43 sounds. Finding that it is very difficult to express 43 sounds by means of 26 letters it is, that persons of equal eminence have found out this method by which each sound has a separate letter to represent it. These methods have been found very difficult to be grasped by youngsters of 8 and 9 and so it was not even attempted. There was one more difficulty, i.e., of supplying children with books of Phonetic scripts. But for these difficulties, these methods would have been deemed to be the best and they would have been followed in every school throughout the Indian Empire.

After surveying briefly the “Look-and-say method” which was and is, even now, in some schools followed, we will begin our subject. From the name itself we understand that the method requires the pupils to look at a word and then say it. True it is that the method is natural, that it can be taught by even the youngest teacher, that it separates the difficulties of reading and spelling; but it leads pupils to the bad habits of guessing and of being inaccurate. This method was termed as a Chinese method, i.e., “the mastery of a few words gives little or no power to read new ones” and in course of time, it gave place to the *Direct Method* which is most popular now.

This method also has its own disadvantages; but they are outweighed by the advantages that it possesses. Which method

did we follow in studying our mother-tongue? How do we study to speak our mother-tongue? Do we follow the Phonic, the Phonetic or the Look-and-say method? “No, none of these”—will be the answer. We hear our parents, brothers, sisters, friends and neighbours speaking this language. We try to imitate them and surely we succeed well. This method of acquiring the knowledge to speak is called the “*Direct Method*.” Only after we have learnt to speak, need we try to read and write.

Language is a matter of imitation and so a person, who studies a language, whether it be foreign or own, by imitation, is said to follow the *Direct Method* or the *Natural Method* as it is sometimes called. It is only after continued trial and Herculean labour that eminent men have achieved such a successful method. From my short experience of teaching English to beginners, I may humbly assert that I have found it a very successful method.

This method is one of looking, saying, playing and drawing. Here, the teacher has to descend to the level of his pupils and to follow the chief pedagogic principles of:

- (1) From the known to the unknown.
- (2) From the simple to the complex.
- (3) From the indefinite to the definite.
- (4) And last, but not in any way the least, from the concrete to the abstract.

Next, we will see how we are to follow this method so as to attain complete success in it.

Herein, there are two opinions. Some say that vernacular may be completely ignored during English classes, but others assert that vernacular may be used whenever found necessary. But I would suggest that some sort of leniency may be shown in the first two

or three classes of an English school in the usage of vernacular and in the fourth year class, both the pupils and the teacher must speak only English.

Another difficulty has to be solved before we enter fully into the subject and that is “Which is better—to begin speaking, reading and writing simultaneously? or to begin speaking alone first, reserving reading and writing for a period three months hence? Here I would agree with the latter view. Now that we have cleared all our difficulties, we can enter into the subject in detail. (As I mean to deal fully with the English teaching of the first year class, I think it will not be out of place here, if I observe that there exists in Travancore a class above the fourth class and below the first form known as the Preparatory class. This is the first year class of an English school and it is in this class that we teach pupils the A, B, C of the English language.)

PREPARATORY COURSE.

For the first six months of this first year English class, no text-book is necessary. The early three months have to be solely spent on conversation and the latter three months of that period may be spent on reading, writing and conversation. The remaining six months may be well spent upon a good text-book.

(a) *The conversation period.*

As the allotted time for this period is very limited, good work has to be done. By this, I do not mean that the quantity of the work to be turned out by the teacher ought to be great; but I mean that the work must be slow and the teacher must assure himself that what is taught in the class has been firmly grasped by his pupils.

SYLLABUS OF WORK TO BE TURNED OUT
DURING THIS PERIOD.

(a) The first three or four periods may well be spent upon teaching general orders, such as:—"Stand up; Sit down; Hands up; Hands down; Hands behind; Right turn; Left turn; Take up books; Books down; Pencils down; A pace to the front; A pace behind; Attention," etc.

(b) The next four or five periods may be spent upon teaching the names of familiar things met with in the class-room, such as:—"Table; Chair; Bench; Board; Floor; Wall; Chalk; Pen; Pencil; Ruler; Ink; Book; Coat; Cap; Desk; Stool; Picture," etc.

(c) The adjectives, such as:—"This; that; good; bad; clean; dirty; new; old," etc., and the verbs, necessary to use these words in short sentences, such as "is; are; was; go; come; am; stand; sit," etc., is sufficient matter for 8 or 10 periods.

(d) Names of things seen outside the class-room, such as:—"Tree; Garden; House; Gate; Grass; Cow; Calf; Boy; Girl; Leaf; Play-ground; Lock; Key; Turban; Bird; Flower; Road; Tank; River; Basket. The pronouns I; he; you; my; his and your and some parts of the body—Matter for 20 periods.

(e) Verbs to use these nouns in sentences have to be taken up next. Much care has to be taken in the teaching of Verbs. Verb-teaching is not as easy as noun-teaching. These cannot be taught when the pupils are hungry. Only a limited number of verbs has to be taught; but that has to be taught well. Good work would be done if a teacher teaches 3 verbs during a period. In addition to the verbs already taught, the following verbs have to be necessarily taught:—Walk; Read; Write; Speak; See; Hear; Cut; Put;

Place; Shut; Open; Swim; Look; Play; Eat; Touch, etc.—Matter for 6 periods.

All that has been mentioned above is sufficient matter for two months. Within these two months, the pupils must be made to frame short sentences of their own such as:—"That is a tree; I have a house; He shuts the gate; You open the door; I cut a mango; He stands on the ground," etc., etc.

The teacher's tact does not lie in teaching his pupils a good number of words; but they must be thoroughly familiar with the usage of those words in short sentences of their own.

After the lapse of these two months, the pupils can be taught some more adjectives, some more pronouns, some prepositions and adverbs so as to enable them to frame longer sentences containing a single verb. The stock of nouns and verbs is sufficient and they need not be meddled with; but the plural forms of nouns and the past and future tenses of verbs can be taught with advantage. The teaching of these is to occupy a full month.

Adjectives. (In addition to those already taught) White; Black; Green; Red; Brown; Big; Small; Short; Long; Thick; Thin, etc.

Pronouns. (In addition to those already taught in the class.) We; They; Who; Which; Where; Whose; Their; Our, etc.

Prepositions. In; On; With; Under; To; For; From; Through.

Adverbs. Quietly; Noisily; Quickly; Slowly.

Action-describing words. Inside; Outside; Far; Near.

The abovementioned Nouns, Verbs, Adjectives, Adverbs, Pronouns and Prepositions must be taught and impressed well in the minds of pupils within three months, after

which stage every pupil must be able to frame sentences like the following:—"The old woman is walking slowly through the road with a white cloth in her right hand." The pupil who frames the longest correct sentence must be given the greatest credit.

Now is the time to begin reading and writing. One period a day may be spent for reading and writing and another for conversation.

Reading and Writing.

For reading, a number of alphabetic cards of two sets has to be prepared. There must be three types of each consonant and five types of each vowel. So, on the whole, there will be $(21 \times 3) + (5 \times 5)$ or 88 cards (printed small characters). Printed capital letters need not be taught for a month and a half to come. During this month and a half, pupils must be able to write in printed small characters all the words that they have studied and they must know to read the same also. Begin reading with sentences first; then take up words and lastly go to letters.

Pupils must first of all be made to recognize that a sentence is made up of words and a word of some letters. When teaching sentences and words, incidentally teach all the 26 letters. After this, printed capital letters may be begun which can be easily taught within a fortnight, as the difference between printed capital and small letters is slight.

The method of teaching the alphabet is this:—

Take the card box to the class and arrange all the cards on the plank thrust into the board. It is not necessary that the letters are to be arranged in their order. In the other plank, arrange the sentence "I am

a boy." Read the sentence two or three times and get pupils to read the same. Point out the words one by one and pronounce them. Arrange those words in disorder and get pupils to arrange them in order. Write the sentence on the black-board asking pupils to carefully note you when writing and get pupils to write the same. Thus, the teacher must teach his boys all the words they have studied.

So, the work that is expected of a Preparatory-class teacher within the first five months is:

- i. A vocabulary of 150 words.
- ii. To make his pupils able to read and write sentences containing these words.
- iii. To answer questions put upon any picture.

Conversation during the latter portion of the first five months shall take the form of picture study. Take the picture album or the animal book to the class and put questions such as:—"What is this? What do you see in this picture? What is the cow doing? Where is it standing? What colour is it? What do you see near it? What is it looking at?" etc.

The teacher must devote his whole attention during the sixth month in teaching his pupils the script characters. These characters, both capital and small, may be taught by adopting the same method as was followed for the teaching of the printed characters. The teaching of the script characters has to be attended to with better care as students have always to be in touch with this kind of writing. Pupils must be made to write the script characters neatly, correctly, legibly and at a reasonably rapid rate. The writing must slant a little to the right and this must be insisted upon every now and then, as it is

during this early period that the handwriting of youngsters takes a particular shape. During this period also, conversation must not be ignored. At this stage pupils must be able to answer simple questions bearing on class-materials, such as:—"Bench; Chair; Table," etc.

The teacher might now begin the text-book prescribed for the class. Pupils will not be over-worked if two lessons a day are finished (up to the 30th lesson) and after the 30th lesson, a lesson per day may be finished. I think this pamphlet would be incomplete if I do not mention here the method of conducting a reading lesson.

Firstly, hold a conversation bearing upon the matter of the day's lesson. Incidentally, introduce new words if any; make clear the meanings of those words by giving explanations in English; elicit the spelling of words from pupils; read the lesson as a model for pupils and get them to read the same. Much care has to be paid to the correct pronunciation of the words as they are apt to be mis-pronounced. Full three months have to be spent for finishing the lessons of the text. Now, during these three months, conversation also must continue. In addition to conversation, there must be dictation and copy-writing or transcription. During the conversation periods may be taught the perfect and imperfect tenses of verbs, the names of the days of the week, the names of the months of the year and such like matter which are highly necessary to be familiar with.

As for *dictation*, there shall be two periods for it in a week. The teacher must dictate some words and sentences for the pupils to write. Afterwards, he must get the spelling of the words from pupils and must get their

note-books corrected by adopting mutual correction.

Mutual correction has a twofold influence:

(1) The work is done quickly.

(2) Pupils come to understand that there are many possibilities of committing mistakes and that they must avoid committing such mistakes. Moreover, it trains their powers of observation and judgment.

The teacher must not sit quite satisfied with the correction made by the students; but he must walk about in the class observing each boy's note-book and afterwards the teacher must recorrect the note-books of some boys, if he has any sort of suspicion upon the examiners. If the examiner, by carelessness or otherwise, forgets to mark a mistake or if he marks a right word as wrong, he shall be given proper punishment.

For *transcription* and copy-writing which may occupy a period a week, students may either be asked to transcribe lessons from their text-books or they may be asked to copy a sentence from the board, which sentence shall be written by the teacher as a model for his pupils.

The last month of the year shall be spent for revising the old lessons. It does not matter if the progress is rapid during revision.

SUMMARY OF WORK TO BE DONE IN THE PREPARATORY CLASS.

I. A vocabulary of 250 or 300 words at the most. Of these 300 words, there shall be 150 nouns, 50 select verbs, and the remaining 100 words shall consist of adjectives, adverbs and prepositions.

II. To be able to use these words in cor-

rect and simple sentences of their own and to be able to write these correctly.

III. The ability to answer general questions.

IV. The ability to express their ideas in simple English about a picture.

V. And lastly to be familiar with the days of the week, the months of the year and Nos. up to a *million*.

THE LOWER FORMS' COURSE.

The method to be adopted in the teaching of English to these lower forms is the same; but the difference lies only in the grades. A regular text-book is prescribed for each class and it has to be gone through in a year. In olden days, pupils were given the true translation of every lesson and thus, they were made to grasp the ideas. This method of teaching is known as "*The translation method*." Now, what we propose is the opposite of this. Keep off Vernacular and English as apart as possible. Make the meanings of English words clear by explaining them in English. Talk and get pupils to talk (as far as possible) in English. These are the main truths that have to be remembered when one undertakes the responsibility of teaching a batch of young pupils English by the *Direct method*.

HOW TO CONDUCT A READING LESSON.

See that every pupil has a text-book with him. Refer every pupil to the picture facing the lesson. Put questions upon the picture and get answers from pupils. Incidentally introduce the new words of the lesson and explain the ideas conveyed by these words only in English. Get the spelling of the words from pupils. Read the lesson and get pupils to read the same.

As regards *conversation* for the lower forms,
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it may take the forms of picture-study and composition. In the first and second forms, a story may be narrated, questions may be put upon that story and pupils may be got down to write the same in their own words. Composition may be begun when the pupils reach the third form.

SUMMARY OF THE KNOWLEDGE OF ENGLISH AT THE END OF THE THIRD FORM.

I. A vocabulary of 700 or 800 words, the main portion of which shall consist of nouns. Nouns shall number about 500. Verbs shall range from 150 to 200 and the rest shall consist of adjectives, adverbs, prepositions, and conjunctions.

II. The usage of these in simple sentences of their own.

III. The ability to write in their own words in simple and straightforward English the substance of a story narrated in the class.

IV. The ability to write a letter.

N.B.—Even in the third form, pupils must not be allowed the freedom to write complex sentences as this may lead them to write incorrect sentences. Always insist on pupils to write simple sentences.

TEXT-BOOKS.

Preparatory Class:

Primer by Yates and Rajagopalachari.

1st, 2nd and 3rd Forms:

Nelson's Indian Readers:

Books I, II & III, respectively.

K. S. GOVINDASWAMY IYER.

UNIVERSITY OF BOMBAY.

REVISED REGULATIONS AND COURSE OF STUDIES
FOR THE DEGREE OF BACHELOR OF COMMERCE.

(Adopted by the Senate on the 2nd October 1914 and
to come into operation in November 1914.)

BACHELOR OF COMMERCE.

90. Candidates for the Degree of Bachelor of Commerce (B. Com.) must have passed the Matriculation Examination, and will be required to pass two subsequent Examinations, the first to be called the Intermediate Examination in Commerce, and the second the Examination for the Degree of Bachelor of Commerce.

INTERMEDIATE EXAMINATION IN
COMMERCE.

91. From 1916 the Intermediate Examination in Commerce will be held annually in Bombay, commencing on the fourth Monday in March.

N.B.—In 1915 the Examination will be held in the month of October, commencing on the third Monday of the month.

92. No undergraduate will be admitted to this Examination unless, after obtaining a certificate from the Principal of an Arts College affiliated to this University, showing that he has satisfactorily carried out the work appointed by the University for the first two terms in Arts, or else after passing the Previous Examination of this University or the Intermediate Examination in Arts of any other Indian University, he shall have kept two terms at a College or Institution recognized by this University in Commerce, and unless he produces satisfactory testimonials under Form 35.

93. Candidates must forward an application to the Registrar two weeks before the commencement of the Examination.

94. Each Candidate must pay to the Registrar, through the Principal of his College or otherwise, as the Syndicate may direct, a fee of Rs. 25.

95. The Syndicate will from time to time prescribe or recommend text-books in the various subjects of the Examination.

96. To pass the Examination the Candidate must obtain 40 per cent. of the full marks in each subject. Those of the successful Candidates who obtain 66 per cent. of the total marks obtainable will be placed in the First Class and those obtaining 50 per cent. in the Second Class.

97. As soon as practicable after the conclusion of the Examination, the Examiners will arrange and publish a list of successful Candidates in two Classes, and Pass, the names in the First Class being arranged in order of merit, and those in the Second Class and Pass, in alphabetical order.

98. A Certificate will be given to those who pass the Examination.

99. Candidates for the Intermediate Examination in Commerce will be examined in the following subjects :—

- I. English.
- II. General Elements of Economics.
- III. Geography.
- IV. Accounting.

I. ENGLISH—Two papers and an Oral Examination.

- (1) Essay.
- (2) A General English Paper.

In the General English Paper, the following will be included :—

Grammar, Syntax, Analysis, Paraphrase, Précis Writing, General Rules of Composition.

Importance will be attached to Handwriting.

II. GENERAL ELEMENTS OF ECONOMICS—
Two papers.

Subject matter of Economics.

Human wants. Effort to provide for the present and future.

Fundamental conditions of wealth—physical environment. Social order. Combination and division of labour. Population.

Exchange—Price formation. Values under custom, competition and monopoly.

Incomes from (a) property, (b) work. Causes of their variations.

Consumption—Relation between individual income and individual well-being.

The wealth of nations.

III. GEOGRAPHY—Two papers.

Physical Geography, as a basis of the various types of civilization, and a determining factor of national and economic development.

Configuration of the great land masses and oceans.

Wind and water currents. Climate—Distribution of flora and fauna, and of mankind.

Detailed study of the physical characteristics of India.

Main features of other continents.

Trade routes.

Commercial Geography—Present day production of the chief countries—in agriculture, mining, industry and commerce.

N.B.—Candidates will be expected to illustrate their answers by sketch maps.

IV. ACCOUNTING—One paper.

Keeping the subsidiary books, posting into the ledger, preparing trading and profit and loss accounts and Balance sheets of general merchants, partnerships, and joint stock companies. Bad debts. Depreciation, and Reserves.

EXAMINATION FOR THE DEGREE OF
BACHELOR OF COMMERCE (B. Com.)

100. From 1918 the Examination for the Degree of Bachelor of Commerce will be held annually in Bombay, commencing on the fourth Monday in March.

N.B.—In 1916 and in 1917 the Examination will be held in the month of October, commencing on the third Monday of the month.

101. No Candidate will be admitted to this Examination unless, after passing the Inter-

mediate Examination in Commerce at this University, he shall have kept four terms at a College or Institution recognized by this University in Commerce, and unless he produces satisfactory testimonials under Form 37.

102. Candidates must forward an application to the Registrar two weeks before the commencement of the Examination.

103. Each Candidate must pay to the Registrar, through the Principal of his College or otherwise, as the Syndicate may direct, a fee of Rs. 50.

104. The Syndicate will from time to time prescribe or recommend text-books in the various subjects of the Examination.

105. To pass the Examination the Candidate must obtain 40 per cent. of the full marks in each subject. Those of the successful Candidates who obtain 66 per cent. of the total marks obtainable will be placed in the First Class and those obtaining 50 per cent. in the Second Class.

106. As soon as practicable after the conclusion of the Examination, the Examiners will arrange and publish a list of successful Candidates in two Classes and Pass, the names in the First Class being arranged in order of merit, and those in the Second Class and Pass, in alphabetical order.

107. A Certificate will be given to those who pass the Examination.

108. Candidates for the Degree of Bachelor of Commerce will be examined in the following subjects :—

- I. Commercial Correspondence.
- II. Administration.
- III. Mercantile and Industrial Law.
- IV. Special Branches of Economics—
 - (a) Public Finance.
 - (b) Currency, Banking, and the Money Market. (Elementary Principles.)
 - (c) Elements of Statistics.
- V. Economic History.

VI. One of the following special subjects :—

- A. Advanced Accounting and Auditing.
- B. Advanced Economic Theory and History.
- C. Advanced Banking.
- D. Actuarial Science.
- E. Organization of Industry and Commerce.

I. COMMERCIAL CORRESPONDENCE—One paper.

Drafting business letters, reports, circulars, etc.

II. ADMINISTRATION—One paper.

(a) Indian Administration—

- (1) The Secretary of State and his Council.
- (2) The Governor-General and his Council.
- (3) The Provincial Governments.
- (4) Municipal and District Administration.
- (5) Administrative Machinery, with respect to Finance, Public Works, Police, Justice, Medical and Sanitary Services, Education, Transport, Irrigation, Land Tenures, Land Revenue, Commerce and Agricultural Departments, etc.

(b) Main points in the Government of the United Kingdom, so far as they are of general imperial interest.

Fundamental features of the constitution—Crown, Parliament, Cabinet, Executive Departments, Civil Service, Method of Legislation.

(c) Relation between the component parts of the Empire.

III. MERCANTILE AND INDUSTRIAL LAW—Two papers.

The Indian Law relating to Contracts, Mortgages, Joint Stock Companies, Negotiable Instruments, Charter Parties, Bills of Lading, Fire and Marine Insurance, and the Insolvency in Presidency Towns.

The Provisions of the Indian Stamp and Limitation Acts relating to the above.

N.B.—Candidates who have passed the Intermediate Examination in Commerce under the old regulations shall be required to pass in Geography as prescribed for the Examination under the new regulations instead of in this subject.

IV. SPECIAL BRANCHES OF ECONOMICS—

Two papers.

(a) Public Finance—

(1) The Fiscal System of India.

Analysis of annual expenditure and income, imperial, provincial and local. Comparison with other fiscal systems.

(2) Theoretical Classification of the various kinds of expenditure and revenue.

Taxation—Its justification and its different bases. Proportional and graduated methods. Direct and indirect systems. Taxes on property, income, consumption, with theories of incidence.

National and Municipal loans—Productive and unproductive expenditure. Redemption. Sinking Funds.

(b) Currency, Banking, and the Money Market.

(Elementary Principles).

Functions of good money. Present day Coinage. The various standards. Preservation of parity. Legal tender.

Variations in the purchasing power of money. Indian Currency system.

Development of Banking. The Bank of England.

The Act of 1844. Modern Deposit Banks and the Cheque system. The Clearing House.

The Money Market—Bill Brokers, the Stock Exchange.

Foreign Exchanges.

(c) Elements of Statistics—

Method of collecting, tabulating and graphically representing data.

Averages. Index numbers.

Important Historical Statistics, as to population, commerce, wages, etc.

V. ECONOMIC HISTORY—One paper.

(a) Summary of the contributions made by older civilizations to the economic development of mankind.

(b) English Economic History as typical of the line of industrial and social evolution in Europe.

(The Manor, Fairs, Gilds, Mercantilism, the Domestic System, the Industrial Revolution, Capitalistic production, Control of labour conditions. Commercial Policy).

(c) Indian Economic Development.

VI. SPECIAL SUBJECTS—Three papers.

A. Advanced Accounting and Auditing—

(1) The accounts of different kinds of business, including Banks, Insurance Companies, Factories, Mining Companies, Railways and Hotels, Charitable Institutions, and other non-trading concerns. Partnership accounts, including treatment of good-will. Income and Expenditure Accounts, Branch Accounts, Cost Accounts, Bankruptcy Accounts, Departmental Accounts, Depreciation, Reserves, Sinking Funds; The Double Account System; Columnar Book-keeping.

(2) Auditing—The continuous and the completed audit, the detection of fraud, technical errors, and errors of principle; first and subsequent audit; verifying cash, Securities, stock sheets, wages sheets. Special considerations in different classes of audit; valuation of fixed and floating assets. Forms of accounts and balance sheets. Capital and revenue items, the auditor's certificate, the liabilities of auditors, the conduct of investigations and the certifying of average profits.

B. Advanced Economic Theory and History—

(1) Important modern problems of Theory.

(2) History of Economic Thought.

(3) Indian Economics.

C. Advanced Banking—

(a) Principles—

(1) Metallic Currency.—The functions and economic significance of money. Various forms of money. Metallic currencies and coinage. The English Mint Regulations and Coinage Acts. Currency deterioration—its causes, measures and remedies. Legal tender; the various systems prevailing in different countries. Methods of maintaining internal equivalence of legal tender

moneys. Question and monetary standard and valuation. Decimal coinage. Various proposals for international money. Method of measuring variations in the value of money. Indian Currency problems.

(2) Banking and the Money Market.—The functions and economic significance of Banking. The general structure and methods of English Banking. The Cheque system and the clearing house. Banking investments. The short loan fund. The money market—its fluctuations, periodic and other. The reserve and the discount rate. The regulation of note-issue, and the Bank Acts. £1 notes. Comparison with Foreign systems. Recent developments in English Banking. Indian Banking. General Banking Statistics. The Foreign Exchanges. Financial and Commercial crisis.

(b) Banking Law.

D. Actuarial Science.

(1) The Binomial and Exponential Theorems; the theory and use of Logarithms, the Elements of the Theory of Probabilities, the Elements of the Calculus of Finite differences including Interpolation and Summation; Elementary Differential and Integral Calculus excluding questions requiring the use of Trigonometry.

(2) Compound Interest and Annuities—Certain including the construction and use of Relative Tables. Valuation of Perpetuities, Varying Annuities and Increasing Annuities. Capital Redemption Assurances.

(3) Life Contingencies, including Life Annuities and Assurances and the construction and use of the Life Table, and monetary and other Tables based thereon; excluding questions on the compilation of Tables from Statistics, or on Graduation.

(4) The Classification of Policies for Valuation, and the preparation of Valuation Class Books.

E. Organization of Industry and Commerce.

(i) Nature and Constitution of Business Houses, Partnerships, Public and Private Com-

panies: Financing of new business; Organisation of Control and Responsibility; Organisation of Credit; Inquiring Agencies; Bank and Business References; Value and Methods of Statistical Investigation.

(2) The organisation of markets and the interdependence of market phenomena and industrial phenomena. Produce markets and markets for manufactures. Industrial combinations and regulation of output. Factory Legislation. The concentration of specialized industries; production on a large scale; localized industries.

(3) The Rise and Progress of the Cotton Industry in England, India, the United States, and Japan; present conditions and prospects.

(4) Foreign Trade; International Trade; Balance of Trade; the Organisation of Commercial Intelligence; Tariff Policies; Efficiency of Marketing; Railways and other agencies of Transport.

UNIVERSITY TERMS FOR COMMERCE STUDENTS.

The University year shall be divided into two Terms; and in the Faculty of Arts, for Arts, Science and Commerce students, the First Term shall commence on the 20th June and end on the 10th October, the Second Term shall commence on the 10th November and shall end on the 10th March. The number of days' attendance necessary for keeping each term shall be sixty-five.

N. B.—In the case of students who have begun in 1913 or who begin in 1914 their studies for the Degree in Commerce, the First Term shall be from 10th November to 10th March and the Second Term shall be from 20th June to 10th October.

EDUCATION IN THE MAGAZINES.

(INDIAN.)

Indian Students and English Composition.

by Mr. V. D. Limaye, B. A., LL.B.

One of the several anomalies that obtained in our educational system since the introduction of the English language as the medium of instruction in India is, it is necessary to state, the study of English Composition by Indian students. By this I do not mean that English Composition, in itself, is unworthy of study; on the contrary, I positively state that among foreign languages, the English language has the first call upon our attention, inasmuch as it is the language that is commonly spoken in India and represents the vocabulary, structure and modes of thought of a free nation. Still, viewed from the standpoint of utility and result, the importance that is given to English Composition in our University Curriculum, unconsciously enough, is undeserved and unnecessary.

From the standpoint of utility it is undeserved, because it is not necessary to assume that it is only the English language that makes an inter-communication possible between the different communities; and moreover, that end will be served quite as well if as much importance is given to any of the principal languages in India. It is, again, unnecessary, because, though it is for a time assumed that the English language is and can be the only medium for mutual dealings, that purpose will be served even if it is learnt as a collateral language. The fact is that the English language has received an undue importance in the Indian Educational system.

From the standpoint of result, again, the importance attached to the study of English Composition, is undeserved, because it produces no result. What is, at present, the aim and object in carrying on the study of English Composition even in the B.A. Class? The object must apparently be that at least a few of those who go through a training in composition should be able to add to the literature of the language in which they are taught. But how many Indians have contributed to English literature and made a name? If, in answer to this, it be said, that the aim of the present scheme of instruction in composition is not so presumptuous but a modest one, namely to enable the students to speak and write correct English. Then, I may say, the importance given to the subject is quite disproportionate—let there be a grand aim for a

grand pursuit—, and it would indeed be a comic picture of the situation to say that the junior and senior under-graduates here learn till their graduation only to write correct English!

Let me, here, note that I am not blind to other aspects involved in the study of English Composition. I am aware that just as Mathematics has its place in the educational curricula of all the countries in the world because of its capacity to train up the mind to systematic thinking, so composition trains up the mind of a student in several ways: for instance, he is trained in that art of attractive and effective arrangement of ideas which will go a long way in making his dealings with people of various vocations successful in after-life; moreover, composition affords him opportunities of proper selection of words and ideas; and English does so much more, because the copiousness of its vocabulary and the variety of its idiom demands a subtle sense of perception and discrimination in marking down the nice shades and distinctions of meaning; but here, it may be asked, so far as the attainment of skill in arranging ideas is concerned, whether the same object may not be achieved by the study of composition through a vernacular?

But, unfortunately, the method of study of English Composition as it exists at present in our colleges cannot receive any support from the above considerations, which alone, if anything, must afford justification for the study of English Composition. The several authors in English Composition state and the contents of their treatises illustrate that the books are meant for persons of a school-going age and not for adults who have spent more than a decade in the study of the English language. W. Marison, the author of the book which our University has thought fit to prescribe for English Composition, besides allowing that writing good English is a natural gift and that one can write well provided one has something to say, admits in plain words that precept and practice will enable only a beginner to acquire quickly and easily a valuable part of a writer's equipment. If then our graduates after spending so much time on the study of the English language, are only beginners in that field, there is nothing worse in our educational system and more likely to be fool us in the eyes of the very people for the study of whose language we spend so long a period of our life. The method that is generally adopted for teaching English Composition in all the colleges of this Presidency shows that the teachers of such an important subject as composition make no difference between the school and the college education in this

respect. If the teacher in the college confines himself only to exacting from his students an attention to spelling, grammar, construction and other minor details, we have nothing but the elementary teaching of the school done in a college building! All these facts force us to two conclusions, one, that we must be satisfied with the present state of things, which keeps our graduates mentally on a level with the Matriculates of the London University or the candidates for the entrance examination in any University in Europe; secondly, if we are aiming at something higher, we are wasting a good period of our student life by extending in practice the school curriculum unnecessarily to a later stage.

In fact, powers of composition depend chiefly, not upon the study of words and their construction, but upon the study of ideas, their origin and expression, in the mind; and the history of any language will show us that it is moulded by the line of thought of the people who use the language as a medium of expression. And, therefore, provided we have ideas in our mind, we shall not fail to use the suitable phraseology to express them, if we have sufficient grounding in the language and take sufficient care. The teaching of English Composition in the higher course of our education must, therefore, be so arranged as to develop and furnish the mind of the student. The purpose will be best served only in the vernacular; for it is an accepted principle of psychology that ideas come into the mind with their forms of expression. One cannot think independently of language; and as the mind of a man is best associated with the forms of expression obtaining in his vernacular, ideas pop up and get developed in those very forms. So a student trying to think upon any subject for English Composition, has first to translate these ideas into English. This translation entails great mental labour since he has then to adapt these ideas to the idiom of the English language. In this way he is put to an unnecessary strain and trouble. But if he is allowed to write his essays in the vernacular, his labours would produce the best result possible.

Moreover, that the vernacular is the only language in which composition should ever be taught and studied follows also from other grounds; for, it is that language, in which, in his after-life, a student will have to carry on all transactions, and therefore it is quite necessary and desirable that he should be expert in the selection of expressions from his own vernacular.

To conclude, there is one warning to be offered

—that the issues of this question are not to be mixed up with the issues of another question, viz, whether education should be given through the vernacular or through English; for which ever language be the medium of instruction, composition must ever be taught through the vernacular.—*The Fergusson College Magazine*.

Influence, Honour and Ambition in Student-life, by H. E. Lord Willingdon.

The following extract is taken from the address delivered to the students of the Fergusson College, Poona, by His Excellency Lord Willingdon, Governor of Bombay:—

I want to ask you a general question with regard to your life in this College—What is the main, the chief object of your spending a certain time under the control of the Principal and Professors who are appointed to take charge of you? I wonder what your answer would be? Would it be that you consider you are here to fill yourselves full of book learning, digested and set to memory sufficiently to ensure your passing a degree which you consider the aim and object of existence? I hope not. For I trust that you feel as I do strongly that while sound education is of great importance to fit you for making a start in any profession, I believe an equally important object of college life is to enable you to learn through the example and advice which should be and, I am sure, is given by your instructors to grow up to be clean-living, trustworthy, honourable gentlemen, holding a good record for high character in your college careers, which should give each one of you a good start in your various professions. Believe me no amount of brain cleverness will, in the long run, be of any real value to you unless along with it you can show yourselves to be men of high principle and honour worthy to be trusted in any capacity in life.

Now, I want to say a few words to you to-day on three particular qualities in a man's character, those of *influence*, *honour* and *ambition*, which, if developed in the right way, are of immense importance to him in his life. Let me refer to them in the order in which I have given them to you.

There are two kinds of influence in the life of every man, the influence he gives to and the influence he receives from others. As to the former, I think it is often not sufficiently realised that every one in a greater or less degree can exercise an influence over the people with whom he is brought into contact. Some of you owing to your strong personality, to your prowess

at sport or your general efficiency in all that appertains to your college-life have naturally more influence than others, but the responsibility for good influence rests on each and every one of you and I wish to urge you to live your lives with such high motive that your influence may always tend to encourage sound moral tone and principles among all with whom you are brought into contact.

As to the influence you receive from others, I am inclined to think from my observations and experience during the past year that as a race the Indian is extraordinarily susceptible to influence both from individuals and from circumstances which arise from time to time; he is so receptive so responsive, so extremely sensitive to the impressions that surround him. And feeling this as I do, I want to warn you all against allowing such influence to unduly excite your minds and possibly destroy for the time your better judgment, and to urge you, on any question that may arise in which you take an interest, to think such questions out deliberately and carefully for yourselves and before making your decision to feel certain as far as you can that you are acting as a loyal citizen of the Empire and in the best interests of the peace and good government of your country. It must always be a matter for regret that in this as in other countries there are to be found highly educated men with strong personalities whose views and teachings, if carried to their logical conclusion, tend to the destruction of the contentment and prosperity of the country and are a grave danger to the progress of its people. Against such influences I wish to warn you with all seriousness. We all know that the influence of such teachings in the past has caused incidents which have damaged the fair fame of India, and have ruined young lives in the beginning of their careers; I am sure I am voicing the opinion of everyone in this hall when I say that we should be glad if such men would see the error of their ways and use their knowledge and influence to assist in promoting by their advice and fair criticism the common weal of the community, rather than, by preaching doctrines which produce unrest and false ideas in the minds of the people, to endeavour to subvert the sound government of the State.

Let me now take the next point which I would refer to, viz, the quality of honour in your lives. I am certain of this that no country will, in the long run, succeed whose citizens have not a high sense of honour and it is a great pleasure to me to feel that I have found already in this country many

Indian friends whose honour and integrity are a worthy example to their fellows. But I am bound to say too that certain incidents have occurred during the past months which lead me to feel that high sense of honour does not always obtain in every department of our public life. And so I say to you to-day when you leave this college, go out into the world with a determination to hold your honour high among all men and never to do an action which you feel in your conscience is mean or dishonourable in any degree and thus set a high example to others, and be worthy of the responsibility of your citizenship.

One word as to ambition. I hope you all, I believe every one, should have ambition, but what sort of ambition is it to be? Do not, I beg of you, let it be the small petty ambition of the man who cares only for his own personal advancement and success, but rather the ambition of the man who, without looking for honours and rewards, by his work and example, strives always to secure the greatness and prestige of his country.

I am afraid, you may say that I have given you a severe lecture, but, I trust, you will believe that all I have said is with a deep and earnest wish to help you in the future. Some of your countrymen who have done great service in the past, will soon have, owing to weight of years, to give up the strain of public life. The responsibility of taking their places will rest in the future upon all you young men who are reaching full manhood. I want you so much to realise how great are your opportunities, how far-reaching your responsibilities. You will have many disappointments to bear, many temptations to overcome in the beginning of your careers, but I am sure of this that if you start with a high sense of honour and principle, if you hold before you a high ideal of the future of your land, if you determine to make and create by your fine example that sound and honest public opinion which is essential to all administration, of whatever kind it be, the difficulties and trials will largely disappear, and you will worthily carry on the good work which has been done with such real and public spirit of many of your fellow-countrymen in the past. I feel the deepest interest in your future lives. I hope, I trust, I believe, you will succeed.

Mr. N. P. Krishnaswami Aiyar on the Value of Sports and Games in the Formation of Character.

The following are extracts from the speech of Mr. N. P. Krishnaswami Aiyar at the Annual Sports of the Municipal High School, Mayavaram:—

In the good things of this world, no nation, how-

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ever favoured, can hope to claim a share by mere intellectual superiority and mental equipment, if at its basis, it has no heritage of manhood, physical stamina and powers of endurance. These qualities are best evolved and developed in the nursery of the play-ground, in tournaments, in inter-school sports, and in excursions. Thus is infused in our young men, early in life, respect-compelling traits of pluck, alertness, resourcefulness, readiness for prompt action when confronted with an unforeseen obstacle or danger. So have people come to gauge rightly and correctly the place and value of sports and games in the formation of character of young India, in the ready and the necessary equipment it gives for their battle of life, and in the training they receive for the elevation of their moral worth. We speak of the moral efficiency, and the character-building of a nation. Whence these? How acquired? Are they got by teaching and preaching? No. Morality and character, any more than loyalty cannot be acquired by direct oral teaching, but must be slowly imbibed by the living contact and association with the living being that have these qualities, in the arena of the play-ground where numbers gather in sympathetic rivalry and comradeship. No amount of preaching will enable a man to learn to swim, unless he had been in contact with the element that aids him to do so; no one can learn the art of warfare, unless he had been a fighting unit in a war and no one can acquire the noble qualities of manliness unless he had been a sportsman, and unless he has picked them up and acquired in the playground. What has made any nation great? Why, what has made England great? Neither Shakesphere nor Newton. Waterloo was won because of her Eaton playground, because of her foot-ball and cricket, because of her horse-race and boat-race, because she is ever on her legs jumping and frisking, because she wants to be a robust animal with a giant frame rather than a giant intellect with a puny physique.

You, as students of history, must have learnt that no people is more despicable as a fighting force than the Brahmanas of our districts. So it has come to be the characteristic of the Brahmana, his intellectual cunning, and his want of manliness, when he says "Those that are afraid of the tiger, go, gather round me."

I have only a question or two to ask you in all earnestness and sincerity. Many of you have children studying in our school. Do you wish them to be "all head and no body?" a veritable forked radish?—Ah, No! Do you want your boys look respectable with gold-framed spectacles? Not at all! You will not like them die of diabetes or tuberculosis before they reach their prime? Not in the least! Do you wish them to be men fit to take their place as proud citizens of the Empire?—Yes! Then follow my advice. Do not be presumptuous to teach teachers. Leave your boys' study to us; we know what we are about. If your children work their young and growing brain during the hours of study in the school, that is more than sufficient. If they do not take kindly to consuming the midnight oil,

do not force it on them. This is my advice No. 1. Allow your children plenty of time to eat, to sleep and to grow to be robust animals; feed them well—not on your proverbial Indian Coffee—it has no nourishment, nor on that deadly poison which you imbibe every morning and perhaps every evening too. Coffee is not a food, it injures growing organism; it is a stimulant of the kidney, leads on to albumenaria and kindred diseases; feed them on milk, black gram, red gram, on such non-stimulating muscle-building food. This is my advice No. 2. Do not curb them if they run about the house; they sometimes upset things and cause you annoyance, but remember that children are children and must continue to be children, full of frolic and fun. If you want them to be old when young, they would be young when old, not a very desirable state for the progress of our nation. Let them play as long and as well as they could; let their face display mirth and mischief. If they bale out water from a vessel they are learning practical physics; if they are on a sand-heap constructing dovecots, they are trying to be engineers and to learn the strength of materials; if they injure their little finger by the burning of a cracker, well, they understand the chemistry of gunpowder and the impact of a bullet-shot. Let this be their first baptism in the artillery of fire. These little incidents nerve them for the more serious business of life. If you buy for your boy, say, a live doll, a doll that screeches when pressed, and if it be kept intact ever for so many days, conclude at once that your boy must continue to be a screeching doll all through life, but if on the other hand, after satiety, he breaks it and looks in, argue that you have a Professor Bose to step into your shoes. If they are a little bit elderly insist on their attendance in the gymnasium or the play-ground. This is my advice No. 3.

Till now, gentlemen, you followed me, I am sure, with some interest, and a willing ear; but I fear my advice No. 4 will be a bitter pill for you to swallow; but swallow you must, because it concerns you most, because it is of vital interest to us all. "Man never dies, but lives in his children" say the Vedas. So if you live not only for yourselves, but also for your children, and through your children, I say, live for our nation, because of your children and through your children. That is my gospel; be a little less selfish. Subscribe liberally towards the formation of a permanent fund for the annual upkeep of this business that will make your children strong, healthy and long-lived.

Swinburne the Poet, by Prof. H. C. Mookerjee, M. A.

There is one quality of Swinburne that characterises the whole man and all his work and that is his enthusiasm. He was a spirit regenerated from that great time of regeneration called the Renaissance one of those to whom every sort of halfness is death. And his enthusiasm has two sides: a capacity for enraptured admiration and for

unquenchable hatred. When it is concentrated on a person or an idea what forms this admiration or this hatred will take: What proportions Victor Hugo and Walter Savage Landor get when regarded through the medium of Swinburne's imagination and enthusiasm: Dithyrambs and odes, innumerable and almost self-abasing, have been devoted to them through volume after volume.

These however are only the more or less stray variations of a great enthusiasm which, when turned on ideas and sentiments, becomes beautiful and justifiable. It is in one direction, above all, that it is turned: liberty to Swinburne is the highest and most sacred thing. His Renaissance-born spirit must by its very nature react against every form of natural or spiritual oppression, and as naturally it must find in liberty the one goal of its search. His love of liberty finds expression in all his poetical works, with the possible exception of the first series of the "Poems and Ballads," but two of them especially are filled with it almost entirely. These are the "Songs before Sunrise" (1871), written at the time when the echoes of the Italian War of Independence and the Fall of Napoleon III were still resounding, and its companion-book, the "Songs of Two Nations" (1875). Metrically and stylistically, there are few poems of liberty more beautiful than these, in English poetry. But it cannot be denied that sometimes this perfection of form has been attained at the loss of the spontaneity and genuineness of the ideas and sentiments. These two volumes also, and very naturally, furnish good examples of the two features of the poet's love of liberty that have been already mentioned—his dithyrambic praise and his volcanic hatred of the prominent persons of the drama that inspired them. Here we understand the truth of Woodberry's remark "there is no such master of the curse in modern days: he strikes home and to the pit with it with a mien and a phrase and vollying after, of fire and worth fit to lure Satan down to the abyss." The best example of this is the *Dirge* in the "Songs of Two Nations."

Moreover we hear once more in these two volumes notes that had already been sounded in the first series of the "Poems and Ballads" (1866) I mean the hatred of religion or rather of the Church. The Church to Swinburne is the eternal tool and companion of oppression, nay more, oppression itself, and specially spiritual oppression. In the poems of this type to be found in the first series of "Poems and Ballads," [cf. Hymn to Proserpine, Anactoria, A Watch in the Night, before a Crucifix]. These eruptions break out from the heart of the "late born Hellene"; but in later poems it is the free-thinker and the prophet of liberty who is speaking. As Swinburne, however, is a great idealist this hatred of the Christian Church at the same time becomes an attempt at building up a poetical pantheistic philosophy, influenced by Emerson and Wolf Whitman. [Cf. Hertha, Hymn of Man.]

Indissolubly connected with Swinburne's love of liberty is the nature-worship that runs as the red thread through all his work. It is also connected

with the pantheism just spoken of. As a painter of nature he takes a peculiar position in English literature. His gallery of nature-painting from the first chorus of "Atalanta to the Channel Passage" of his last book, is something more than mere descriptive word-painting. He aims higher: he always endeavours to catch the *Soul* at the landscape and to make us feel it. In nature, as in life, he loves the great primary forces and the great simple ideas. It is not the external and changing forms of nature that catch his attention, although, through his magical art of versification, he makes us almost see and hear them: it is the underlying forces of which all the forms of nature are but the expressions that are his real subject. His very vocabulary is borrowed from earth, air, fire, and water and as Woodberry says, "flame, wind, and foam and all the forms of light are so much a part of his colour rhythm that they become an opaline of verse peculiarly his own; his mannerism in diction and style is chiefly a thing of his fascination with these elementary phases of matter and sensation which are more obstructions of motion, hue and luminousness than simple objects of sight and hearing."

As is well-known, it is above all the sea, to which Swinburne's poetry for ever returns her inspiration. He has sung of the sea in all its moods and in every form of motion and colour; and his poetry may almost be said to have arisen out of its foam. It is particularly from two points of view, however, that he places it highest of all the things that he loves: When he describes the swimmer and the sea and when he sings of the sea as the mother of England's greatness and liberty. His patriotism and his love of the sea are indissolubly and inseparably united. The time of Elizabeth, when the Spanish Armada was annihilated, and the first sea victories of England won, is also to him England's greatest and happiest time whose praise he sings over and over again in the "Songs before Sunrise," and particularly in the third series of *Poems and Ballads* (1889).

The fourth principal subject of Swinburne's poetry love, is intimately connected with his passion for the elementary forces of life and nature. Love, with him is not that fugitive sentiment sung by Byron, nor that demure and romantic worship, that always dutiful and "matrimonial" love which is so common in English literature, and which is typically praised, for instance, by Tennyson. To the women of Swinburne—for, with the exception of *Tristram*, there are few men that play any role whatever in his lyrics and epics,—love is a worm that dieth not and a fire that is never quenched. In wonderfully built verses of *Dolores* this passion finds its supreme expression, and reaches the point that is not to be passed. Loathing, disgust and shame are the "eternal followers" of this passion. [Cf. *Hesperia*, *Luns Veneris*]; and the final note becomes one of weariness and the visit of sleep, as in the magnificent poem *The Garden of Proserpine*. In his later years the poet once more takes up the subject of his youth in the epic poem *Tristram of Lyonesse* (1892), which abounds in passages of

charming lyrical beauty, but as an epic poem is not a masterpiece.

With variations and different treatments these subjects also fill the remaining works of Swinburne. Foremost amongst these stands the second volume of "Poems and Ballads" (1878), containing as it does *Ave atque Vale*, to the memory of Charles Baudelaire, and *A Forsaken Garden*. "A Midsummer Holiday," with its splendid sea poems in the metre of the old French ballads, and "Astrophel," of 1894, must not be forgotten either. In "Atalanta in Calydon" (1865) and "Erechthens" (1876) we find besides the subjects already mentioned, that of the classical dramas,—fate. Perhaps Swinburne never attained a higher metrical and purely artistic perception than in the famous choruses of this two dramatic poems.—*The Collegian*.

Reviews and Notices.

ILLUSTRATIONS TO BRITISH HISTORY, B. C. 55 TO A. D. 1854, EDITED BY J. TURREL (OXFORD UNIVERSITY PRESS). 2s.

This little source-book is a valuable addition to the already increasing number of source-books on English History. One distinguishing characteristic about this volume is that its extracts are taken from many an obscure work which sheds some light on contemporary social life. The illustration of a 17th century squire from the *Verney Memoirs* and of that of the Union of 1707 in the quaintly allegorical story of John Bull and his sister Peg are but two among the many interesting story-like extracts which ought to appeal forcibly to the imaginative mind of the boy. The book does not attempt to cover all the important constitutional and other facts of history, but essays more to give a continuous picture of the people, their habits, beliefs and customs, as they changed from age to age. The free translation from Latin and mediæval works and the avoidance of archaisms are also intended to render the book more readable to the youngsters.

BELL'S ENGLISH HISTORY SOURCE-BOOKS: (1) THE WELDING OF THE RACE (449—1066), BY THE REV. JOHN WALLIS; (2) PALMERSTON TO DISRAELI (1856—1876), BY EWING HARDING, (LONDON: GEORGE BELL & SONS.) 1s. each.

The large series of source-books of which the two we have received, might be taken as typical,

shows the enterprise of Messrs. Bell and Sons who, for a very moderate price, have supplied us with an aid whose want has been increasingly felt of late. The extracts given, may be used either by way of lively illustration at the close of a lesson or by way of inference-drawing before the text-book is read at the beginning of a lesson. Besides extracts of certain *stock* documents and sources of vital constitutional and political importance, much fresh and novel matter is introduced, especially personal and descriptive anecdotes, strongly partisan views of contemporary politics and the like. "We aim at the greatest possible variety, and lay under contribution letters, biographies, ballads and poems, diaries, debates and newspaper accounts. Economics, London municipal and social life generally and local history are represented in these pages." This account by the editors of the series of the nature of the extracts is fully borne out by a study of them, and they seem to be more intended to supply data for inference and thought than merely used as facts to be committed to memory. The books may be found useful by students both of High Schools and Colleges, since the subject-matter of the extracts is common ground to both, the only difference being in the amount of matter which they can respectively read into or extract from the books. The modernising of spelling and sentences wherever necessary is an additional feature of interest; and the addition of a few pictorial illustrations would have made the whole series much more instructive.

A SOURCE-BOOK OF ENGLISH HISTORY FOR THE USE OF SCHOOLS, EDITED BY A. D. INNES, VOL. II: 1603—1815 A. D. (CAMBRIDGE UNIVERSITY PRESS.) 4s. 6d.

We eagerly welcome this handy volume of extracts from contemporary authorities arranged organically in an order suited for easy assimilation by students. In the beginning of each chapter there is a small note on the value and reliability of the authorities cited, the most noted among which are Clarendon's *History of the Great Rebellion*, Cromwell's *Letters*, Pepys' *Diary*, Burnet's *History of My Own Times*, Temple's *Memoirs*, Swift's *Pamphlets* and the *Reminiscences* of Horace Walpole. The extracts are confined throughout to the work of trustworthy contemporary writers; but at the same time the matter chosen is such that it will easily appeal to the imagination of students. There are striking narratives of events in prose and verse, portraits, passages illustrative of eminent men and so on. For instance, Andrew

Marvell's poem *On Cromwell's Return from Ireland* is greatly impressive and describes the force and personality of Cromwell as they struck the poet's mind. The extracts are illustrated profusely by reproductions of authentic portraits, by illustrations taken from old MSS. and by photographs of historic scenes. It will be found greatly useful to the teacher and pupil alike and a valuable adjunct of the class-book.

A FIRST BOOK OF ENGLISH HISTORY, BY F. J. C. HEARNshaw (MACMILLAN & CO.) 1s.

This book is the latest contribution of Messrs. Macmillan & Co. towards their accumulation of interesting and easily readable books on History suited to boys of the lower classes. A connected account of the nation's growth which is not burdened by analyses of reigns, summaries of events, and chronological and genealogical tables, and which can be easily impressed on young minds, is the principal want felt in the teaching of Secondary school boys. And this is now supplied in a very satisfactory way by Mr. Hearnshaw. The main object of the author was to enable the boys to get a connected idea of how the present-day English sprang from the German tribes and passed through the Fendal, later Mediæval and Reformation epochs. The quarrel between the Stuart Kings and Parliament and the accumulation of the great Empire are all clearly and briefly treated; while the triumph of Democracy is brought home forcibly to the young mind. The idea of Imperial Federation, the Home Rule movement, the Triple Entente and other present-day problems are so sketched as to be easily assimilated by young minds. The aim of the author that the boys and girls who read this book should rise from their study, with their reason satisfied, their curiosity aroused and their interest quickened, will be certainly achieved if the book is taught in the right manner. The simple language in which the story is told is bound to add to the attractiveness of the book, and we heartily recommend it for use in the 4th and 5th Forms.

A CONSTITUTIONAL HISTORY OF ENGLAND, BY GEORGE GUEST. (GEORGE BELL & SONS.) 1s. 6d.

This small handbook dealing with the constitutional aspect of national development in a simple way satisfies a much required need of pupils. Hitherto they had been taught the facts

and events of political history without a corresponding instruction in the other important phases of national history, the result being that even boys who had completed their secondary course had no idea of the constitution or of the organs of Government. This book traces in clear outline the continuity of growth existing between the Witan of the Anglo-Saxons and the modern Parliament and shows how Parliament is the source of all power but at the same time is nothing but the reflection of the popular will. A knowledge of 'civics,' i.e., of the powers, structure and functions of the more important branches of Government, both Imperial and Local, is also imparted by this book. The meeting and termination of Parliament, the working of the Commons, the method by which a bill is passed, the Cabinet, how it works and meets, the government of counties and boroughs—all these are brought out in full relief. The book will eminently serve as a suitable text for the higher classes of our Secondary schools.

BRITISH CHURCH HISTORY TO A. D. 1000, BY THE REV. W. H. FLECKER. (LONDON: GEORGE BELL & SONS.) 1s. 6d.

This little book gives the story of the Church in Great Britain and Ireland during the first ten centuries in an interesting manner. The history of the Church, as it is presented in ordinary text-books is very dry and uninteresting; but when it is woven round the lives of eminent Churchmen like Columba and Aidan, Gregory and Augustine, Theodore and Wilfrid, Bede and Dunstan, then our curiosity is awakened and our imagination is stirred by the devotion, learning and statesmanship of these heroes, and we naturally read the book with avidity. This is what the author has done. He would be satisfied if this book should excite in the minds of his readers an interest for further study on the subject and make them take up the Venerable Bede or Bright's 'Early English Church History.'

KNOW YOUR OWN MIND—A LITTLE BOOK OF PRACTICAL PSYCHOLOGY, BY WILLIAM GLOVER (CAMBRIDGE UNIVERSITY PRESS, 1914.) 2s. net.

"On earth there is nothing great, but man, in man there is nothing great but mind." Yet it is the case that very many people have not more than the vaguest notion of the workings of their minds which, they know, they possess, and which they use every minute of the day. It is certainly high time that people set about, in all

earnestness, to know their own minds. The author's dainty little volume is a welcome contribution to popular psychological literature. In this book the author disencases from the Herbartian point of view, the essential principles of psychology and their application to daily life. The exposition is most pleasant reading, and not alone the man in the street for whom the book is mainly intended, but also the technical student of psychology is sure to find it of great value as being a lively and sparkling account of Herbart's main positions next only to that of Prof. Adams. Notwithstanding the caution given at the commencement of Chapter VIII, and the apprehension therein expressed that it might repel the general reader, even the intricate details of Herbart's 'presented content' and 'presentative activity' are rendered with great clearness and force; and one is indeed struck with the number of technical topics through which the reader is taken without his being made to feel anything like a conscious effort. There is throughout a fund of quiet humour, and the general practical reflections, the lively anecdotes and the references to the works of psychological novelists greatly enhance the interest that the book has for the general reader. The most valuable part of Herbart's contribution to the current thought of his period is well summed up by the author when he says, "If Herbartianism did no more than emphasise the fact that no two people have ever exactly the same idea and, particularly, that no master and pupil can have the same idea, it would justify its existence." The author therefore rightly sets up a plea for introducing psychology as a part of the school curriculum, as without a knowledge of mental hygiene and the connected topics we cannot be said to be equipped for our arduous duties in life. If any should be struck with the omission of all reference to the two great departments of Feeling and Will, he should be reminded that the psychology of Herbart is essentially intellectualistic; both feeling and will are said to arise from the circle of thought. "Teach a boy to understand morality and he will act morally" is the essence of Herbart's position. For any controversies to which this position may give rise the author is by no means responsible. A summary is given at the end of most of the chapters, and the book concludes with a chapter with the appropriate title 'a vital postscript.' With books such as these made available for the general public there can surely be no longer any room for the complaint that so often charges psychology with "putting what every body knows in language that nobody can understand."

PUBLICATIONS RECEIVED.

Orthography and Pronunciation in Tamil, by Rao Bahadur M. Rangacharya, M.A. Madras : Brahmavadin Press.

English Prose for Recitation, by B. C. Elliot. London : Macmillan 2s. net.

Cæsar : Gallic War, Books II and III, by Lt. M. Penn, M.A. London : Clive. 1s.

Little Women, by Louisa M. Alcott. London : Longmans. 1s.

The Reign of Edward VII, by Mrs. Lawrence Binyan. Oxford University Press.

Scenes of Hanoverian Times. Oxford University Press.

Then and Now Stories : Senior Government Then and Now, by J. S. Townsend, B.A. 5d. Intermediate : Europe Then and Now. 4d. Junior : Rulers of Then and Now. 3d. London : Macmillan.

How and Why Stories : Junior : Giants and Fairies of To-day. 3d. Intermediate : The How and Why of Bird Life. 4d. Senior : The Curiosities of Natural History, by Frank Buckland 5d. London : Macmillan.

Virgil's *Aeneid* IX, edited by J. F. Richard, M.A. London : Clive.

Matriculation Mechanics, by W. Briggs, LL.D., M.A., B.Sc., F.R.A.S. and G. H. Boyen Sc.D., F.R.S. London : Clive. 3s. 6d.

Introduction to the Study of Organic Chemistry, by H. T. Clarke, D.Sc., F.I.C. London : Longmans. 6s. 6d.

Bells' Reading Books : The Tower of London, by Harrison Ainsworth. 1s. Hereward the Wake, by Charles Kingsley. 1s. Settlers at Home, by Harriet Martineau. 1s. The Last Days of Pompeii, by Lord Lytton. 1s.

Karnan, by R. Sundara Raghava Iyengar, in Tamil. Kumbakonam : C. S. Radhakrishna Iyer. 2 as.

Thathvaignana Bodhini in Tamil, by C. S. Radhakrishna Iyer, Kumbakonam. 8 as.

The Coronation of George V : A Drama in Tamil and Sanskrit, by Pandit N. Sambasiva Sastri, L. E. Sanskrit School, Alwartirunagari.

Bakthi Vilakkam, in Tamil, by C. S. Radhakrishna Iyer. Kumbakonam.

The Islam Series : Muslim Conquests in Spain, by the Rev. Canon Sell, D.D., M.R.A.S. Madras : C. L. S. 10 as.

The Demon of Desire, by K. G. Saunders, B.A. Madras : C. L. S. 6 ps.

The Honour of Mad. Madras : C. L. S. 3 ps.

Physical Effects of Alcohol, Madras : C. L. S. 3 ps.

Panantipata Veramani, by K. G. Saunders, B.A. Madras : C. L. S. 6 ps.

Noctes Latine, by Walter Madeley, M.A. London : Macmillan. 1s. 6d.

Indian Educational Notes.

MADRAS.

H. E. the Governor's visit to the Rajah's High School, Kollengode—On the 17th instant His Excellency visited the Rajah's High School. He was received by the Headmaster at the gate and conducted to the school, where a party of the girl students of the school welcomed His Excellency with a welcome song specially composed for the occasion, and Miss Kamalam, the Rajah's daughter, presented His Excellency with a bouquet. After this His Excellency went round the laboratory, library and all the classes while they were working. Outside the School building was erected a huge and beautifully decorated pandal, which accommodated 1,560 students of the 14 Primary Schools of Kollengode. After seeing the High School, His Excellency came to this pandal, where he witnessed a *Kaikottikali* and *Kollatom* performances of the girl students of the school. At the close His Excellency distributed prizes to them in the shape of lace cloths. A sumptuous treat was then given to all the children. His Excellency was immensely pleased with everything he saw and made the following remarks in the Visitors' Book :—"To have seen the Rajah's High School and to have been present at the gathering of the pupils, boys and girls, of all the fourteen Elementary Schools of Kollengode have been to me among the most pleasant and interesting features of a day which has been full of interest and pleasure. I congratulate the teachers upon the results which they have achieved and wish them and their pupils all success in the future under the powerful and generous encouragement of the Rajah, whose work for the education of the people of this neighbourhood will, I am sure, be an enduring honour and satisfaction to himself and his family."

New School Building, opened by H. E. the Governor at Ambasamudram—The Zemindar of Singampatti read the address of welcome to Their Excellencies, and thereupon Rai Shaib R. Subba Aiyar, correspondent of the school, read a statement giving the history of the school and requesting His Excellency to open the school and to lay the foundation-stone of the hostel. The pavilion put up in front of the new school buildings was a gorgeously decorated one and accommodated about

a thousand persons who had assembled to witness the opening ceremony. One portion of pavilion next to the dais was set apart to accommodate Hindu ladies, of whom there was a large number present. The presence of such a large number of Hindu ladies at such a function was as unique as the presence of a Governor at an out-of-the-way place in Tinnevely District.

His Excellency made a speech and declared the foundation-stone of the hostel well and truly laid and the new buildings open.

H. E. the Governor at the Victoria College, Palghat—H. E. the Governor accompanied by the Collector, Mr. Innes, motored to the Victoria College. As he ascended the Hostel steps H. E. was received by Messrs A. H. Davey, the Principal, H. O. Kershaw, Inspector of Schools, A. Campbell, Executive Engineer and Mr. V. K. Madhava Rajah, the Chairman Delegate. At the command of the Principal the whole body of students assembled in the quadrangle of the Hostel, lustily cheered His Excellency as he ascended the temporary platform covered with red baize. The students thereafter retired to their class rooms in order. The Principal Mr. Davey then conducted the party round the hostel rooms—some 50 in number and very orderly kept. His Excellency made kind and minute enquiries regarding the health of the boys and their studies. Then the Laboratory, the Play-ground the Gymnasium, Library and other class rooms were visited.

The Victoria College was started as a "Rate" School in 1866 and the institution has developed into its present dimensions with a College and High School departments the strength being 280 and 372 boys respectively.

The College is situated on the two sides of the Fort-Kalpathi road running North to South. On the Western side of the road are four blocks of buildings constructed at different times in different styles, and on the Eastern side lies the new block which though unfinished, was occupied in June 1914. The new block was originally intended for the whole of the College department, but has been found sufficient only for the Physics, Chemistry, Botany and Zoology classes. Gas, water and electricity have just been installed at a cost of about Rs. 17,000 sanctioned by Government. The remaining College classes are still held in the old buildings.

A hostel for the students of the College Department alone was opened in October 1913 and there are now 90 boarders. There are separate dining rooms for Brahman and Nayar students and one of the 50 students' rooms has been set apart for others. The Principal of the College is also a Warden. There is a proposal to construct quarters for his residence not far from the College. A member of the College staff lives in the hostel as Deputy Warden.

It is also in contemplation to construct a hostel for the students of the School Department and a

common reading-room for the two hostels together.

The College possesses a library consisting of 3,235 volumes and has a reading room which subscribes for the fifteen English and five Indian journals. Before leaving, H. E. asked Mr. Davey to give the boys a holiday in honour of the visit.

Annual Sports, Mayavaram—The Annual Athletic Sports were held recently in the Municipal High School Foot-ball ground, which was gaily decorated with bunting and flags, a decent pandal having been put up in the southern extremity of the ground. The events were held both morning and evening and the Municipal High School Volunteer Corps were in attendance guarding the line and doing their duty with much credit. There was but a poor response to the numerous invitations sent to the townsmen. M. R. Ry. P. S. Seshu Aiyar, local Sub-Judge was voted to the chair. Mr. K. Seshu Aiyar, the Head Master, Municipal High School, addressed the meeting in a few well-chosen words in Tamil about the meagre support of the citizens. Then Mr. N. P. Krishnaswami Aiyar, First Assistant was asked to address the meeting. Then the President gave away the prizes and congratulated the winners and exhorted all the students to compete and wished success to them. The proceedings terminated with the singing of the National Anthem.

Government Orders.

The maximum amount of the grant sanctioned in G. O. No. 111, Educational, dated 11th February, 1913, for the construction of a new building and latrine for the St. Bede's European High School, San Thome, Madras, will be raised from Rs. 15,050 to Rs. 19,372.

The examination in the new Account Test sanctioned in G. O. No. 896, Educational, dated the 9th October 1912, according to which the examination in the Civil Account Code—one of the two subjects prescribed for the test, is "with books," was held for the first time during the year. The Examiner in this subject reports :—

"As this year the examination has been held for the first time with books, I framed the questions with a view to test the knowledge of the candidates as to how to apply the rules. I am sorry to say that very few candidates have shown a practical knowledge of the Code. Their answers show that in most cases they do not understand the rules . . ."

For the Special Tests, 4,224 candidates in all registered their names, 3,403 presented themselves for examination and 1,290 passed. The numbers that were registered and examined and that passed during the previous year were 5,261, 4,200 and 1,689, respectively.

The results were better than those of the previous year in the case of the Precise-writing Test, the

Translation Test (Lower grade), the Civil Judicial Test, the Criminal Judicial Test (Higher and Lower grades), the Criminal Procedure Code (Higher grade), the Revenue Test (Higher grade and the Jail Test).

In G. O. No 761, Educational, dated the 16th August 1913, the revised syllabus for the Jail Test was approved; the next examination will be conducted according to this syllabus.

The Government sanction the scheme submitted by the Director of Public Instruction for the award of scholarships in the Madras College for Women. They also approve of his proposals to institute ten additional collegiate scholarships of the value of Rs. 9 each per mensem and five widow-scholarships of the monthly value of Rs. 25 each, as a tentative measure for the students of the college.

The Government accept, with thanks, the offer of M. R. Ry. Mudumbi Ramana Achari Garu to endow prizes tenable in the Government Girls' School, Rajahmundry. The Accountant-General will be authorized to receive the sum offered and to purchase Government Securities for the amount. He should furnish the Director of Public Instruction with particulars of the securities purchased and the balance in cash, if any. The applications and the draft notifications referred to in paragraph 2 of the Director's letter will be awaited.

The Director of Public Instruction will be informed that the Government of India have sanctioned an annual recurring grant of Rs. 30,000 for the improvement of Muhammadan education in this Presidency, with effect from the 1st April 1914. He will be requested to submit proposals for the utilization of the grant at an early date.

The Government sanction as a special case a grant not exceeding Rs. 32,700 towards the cost of constructing "Boddam Muslim Hostel" in Georgetown for Muhammadan students studying in the Christian, Law and Medical Colleges subject to the following conditions:—that in carrying out the work the suggestions of the Chief Engineer in his note No. 395-D., dated 14th August 1914, are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The Governor of Fort Saint George in Council, in exercise of the powers conferred by section 4 of the Charitable Endowments Act, 1890, has ordered and directed that the securities and money now in the hands of the Accountant-General of Madras shall, as from the date of publication of this notification, vest in the Treasurer of Charitable Endowments for the territories subject to the

Government of Madras and be held by him and his successors (subject to the provisions of the said Charitable Endowments Act, 1890, and to any rules which may from time to time be framed thereunder by the Governor-General of India in Council) upon trust for the purposes and subject to the conditions set forth in a scheme under section 5 of the said Charitable Endowments Act, 1890, for the administration of the K. Raghunatha Rao Scholarship Endowment.

The Government sanction a grant not exceeding two-thirds of the actual expenditure, nor Rs. 19,263, towards the cost of constructing a new building and a compound wall for the St. Joseph's European Girls' School, Trichinopoly, subject to the following conditions:—that in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Code of Regulations for European Schools have been duly complied with. On the above conditions being fulfilled the grant will be paid as funds become available.

The maximum amount of the grant sanctioned in G. O. No. 182, Educational, dated the 27th February 1913, towards the cost of providing hostel accommodation to the St. Aloysius College, Mangalore, will be raised from Rs. 6,940 to Rs. 7,293.

The Government of Madras have approved generally of the proposals of the Director of Public Instruction to improve the study of languages other than English under the scheme for the award of Secondary School-leaving Certificates, and have asked him to submit detailed recommendations for altering the scheme.

Indian Science Congress.—The second annual meeting of the Indian Science Congress under the auspices of the Asiatic Society of Bengal is to be held in Madras on January 14th, 15th and 16th, 1915. The Congress held its inaugural meeting in Calcutta last January, and met with considerable success. The President of the Madras meeting is the Hon. Surgeon-General Bannerman, C.S.I., I.M.S., whilst His Excellency Lord Pentland, Governor of Madras has consented to be patron. A strong local committee has been formed with Dr. J. R. Henderson as Chairman and Dr. J. L. Simonsen, of the Presidency College, as Secretary. It is requested that all communications relating to the Congress may be addressed to the latter. A large gathering of Indian scientists is expected and it is hoped that the meeting may do much to stimulate researches.

The American College Malayala Samaj, Madras.—The second anniversary of the American College Malayala Samaj, Madras, and the fifty-seventh birth-day of His Highness the Maharajah of Travancore were celebrated together on Sept. 26th, in

the Assembly Hall of the College. Mr. K. P. Velayudha Menon, B.A., B.L., presided. Many respectable ladies and gentlemen, both Indian and European, were present on the occasion. The proceedings of the evening commenced with 'a social' in the hall of the hostel connected with the college. After 'the social,' all went to the Assembly Hall in a procession accompanied by a Malayalam boat-song. After the reception, accompanied by music, the regular programme of the public meeting commenced with a 'welcome address' by Mr. A. N. Verghese, L.M. & S. Following the Chairman's opening speech, Mr. K. Kumara Pillai, the Secretary, read the annual report of the Samajam. In it he expressed his desire that the Samajam would grow to a 'Malayalee Club' in this ancient city of Madras. Then Mr. J. Samuel, a member of the Samajam proposed a toast to His Majesty the Emperor and Mr. P. Damodaram Nair, another member of the Samajam proposed a toast to His Gracious Highness the Maharaja of Travancore. The President then read a telegram from the Dewan of Travancore wishing for the success of the Samajam and praying for a long and happy life to His Highness the Maharajah. After these the Malayalee students of the college (i.e., the members of the Samajam) staged some scenes from Moliere's "The Doctor in spite of himself"—a stage was splendidly set up for the purpose—and it was greatly appreciated, and much more so by the Western ladies and gentlemen. After the 'closing speech' by the Chairman and 'thanks-giving' by Mr. A. Narayana Panikkar, B.A., the permanent President of the Samajam, the function was brought to a close with the singing of "Vanchessa Mangalam," the National Anthem of Travancore. A telegram was sent in the morning to His Highness the Maharajah of Travancore. The message ran as follows:—"Madras Malayalees celebration meeting auspices American College Malayala Samajam loyally sincerely congratulate His Highness and pray happy returns of many more." A reply letter conveying His Highness' thanks was also received later.

Sri Rajah's High School, Tuni.—The 3rd Anniversary of the Sri Rajah's High School Debating Society was celebrated on the evening of the 1st instant, with Rao Bahadur A. C. Pratharthihara Aiyar Aygl. B.A., Inspector of Schools, acting in the 1st Circle, in the chair. There was a large gathering including all the enlightened gentlemen of the place. After the reading of the report by the Secretary, which showed the progress made by the Society and the useful work done during the year, two humorous recitations: "The Ladies' Petition" from Bell's Elocutionist and "A Dissertation upon a roast pig" from Lamb's Essays of Elia—were gone through. Mr. M. Veerabhadra Rau, B.A., then addressed the meeting on the life of Darwin and his theories. A scene from the Telugu Drama, Harischandra and "the Trial Scene" from Shakespeare's Merchant of Venice were played and well-

appreciated by the audience. The President in his concluding remarks enlarged upon the educative value of Literary Associations, how they help to mould the character of their members and how they prepare them for a life in the world. He was very much pleased with the work done by the society and congratulated the people of the Division on the facilities they had for the education of their children. The Chairman being one of the gentlemen who had a share in bringing the institution into being, he was specially glad to find the same in a thriving condition and praised the Rani for continuing the good work started by her beloved husband and hoped she would soon place it on a firmer basis. The Chairman was then garlanded and the proceedings came to a close with the usual vote of thanks and with cheers to their Majesties and to the generous Rani.

As a part of their programme, the members of the Debating Society enacted the whole play of Merchant of Venice before an enlightened audience and the performance was pronounced to be a splendid success.

The Sourashtra High School, Madras.—The Eleventh Anniversary and prize-distribution of the Sourashtra High School, Madras, came off recently and the function was celebrated with much enthusiasm by the students and teachers. The School Hall, where the meeting was held, was crowded with a large number of gentlemen, besides students from the various institutions in the town. Rao Bahadur W. L. Venkatramayya, the District Judge of Ramnad, presided. The proceedings commenced with prayer and recital of verses on Their Majesties the King-Emperor and the Queen-Empress. A very varied and interesting programme of music, dialogues, recitations and farces were gone through.

Mr. A. Govindaraja Mudaliar, Headmaster, read the report on the working of the institution during the year 1913-14, and the following are extracts from it:—

The strength has risen to 1051, the highest number on the rolls since the establishment of the institution. Notwithstanding the present enhanced rates of fees, the strength of the school has risen by 50 per cent. since the last inspection which shows clearly that the Sourashtra community have begun to appreciate a liberal education and are determined to avail themselves of it in spite of all difficulties and obstacles. The rise in the strength is also due to the large number of non-Sourashtra students who have sought admission during the year under report. All these facts go to prove the present popularity of the institution as well as the appreciation of its value by the public of Madras in general. The average attendance during the year under review shows also great improvement, in being 87.6 per cent. as against 85 in the preceding year.

In the recent Secondary School Leaving Certificate Examination held in March 1914, out of 20 candidates sent up for the Examination 16, (i. e., 80

per cent. of them secured more than 40 per cent. of the marks in English, more than half of them obtaining above 50 per cent. and the average mark of the school was 46 per cent. as against the Presidency average 43 per cent.

The Educational Inspector of the 7th Circle inspected the school on the 31st October, and 3rd and 4th November 1913 and was pleased to remark as follows:—"A great improvement is observable since last inspection. The Managing Committee are sparing no effort to raise funds for a new building. The work done by the staff has been praiseworthy."

The managing authorities have now collected a sum of Rs. 40,000, for the purpose of constructing the building and as soon as the collections reach Rs. 50,000, they hope to apply to Government for a half grant, so that they may construct a large school building with extensive space for a Play-ground, Lecture Hall, Science Laboratory, Hostel, Swimming Baths, etc.

The income of the institution from School fees during the year under review was Rs. 10,657-8-3 as against Rs. 8540-7-9 for the preceding year, showing an increase of 25 per cent. This large increase was due to the increase of strength in the High School Department. The financial condition of the School during this year is fairly satisfactory.

Rao Bahadur W. L. Venkatramayya, Chairman, after giving away the prizes made a few concluding remarks in bringing the proceedings of the evening to a close. He congratulated the Headmaster and his staff on the excellent work done by them, which, he said, was conscientiously and carefully done. He was particularly glad to observe that the results at the S. S. L. C. Examination were very good, and he hoped that the school would achieve still greater results in the next year. He then thanked the teachers responsible for the entertainment got up in his honour, and congratulated the young actors on the excellent manner in which they acquitted themselves. He was glad to note that the school library included books on technical subjects which fact showed that the Board of Management and the staff recognised the value of technical knowledge which was essential and indispensable to that school maintained and managed by private bodies. The Sourashtras came to this place some three centuries before and had since then been indissolubly connected with the history of the town. They had preserved even as the Jewish nation in Europe preserved, their integrity which was proof sufficient that they had among them leaders of high moral worth and grit, men of the stamp of Mr. L. K. Tulsiram, a good Tamil scholar and great organizer of labour and Mr. J. Ramier, the young and energetic Secretary of the Board of Management. The Sourashtras of Madura owed their material prosperity to their technical skill and exhorted them not to forsake their traditional profession, which had been handed down to them through generations and which should be a matter of pride to them all. Education was the one need of growing communities and they had taken it seriously. In conclusion, he impressed on

them the necessity to train their boys to be better weavers, better dyers and better tradesmen.

The meeting terminated with the singing of the National Anthem.

A National College at Trichinopoly.—A meeting was held on the 12th instant in the Town Hall with Dewan Bahadur Desikachari in the chair, to concert measures for the establishment of a National College at Trichinopoly. Almost all the distinguished men of the city were present on the occasion. After the speech from the chair, in which the necessity for such a college in the city was ably pointed out, Mr. K. V. Rangaswamy Iyengar moved the proposition that the local National High School should be raised to the status of a college. This proposition was seconded by Mr. Mathukrishna Iyer, High Court Vakil, Madras.

A sub-committee consisting of some of the influential men of the place was elected for raising subscriptions and Dewan Bahadur Krishnaswamy Iyengar, and Messrs. Sivarama Krishna Iyer and T. V. Swaminatha Iyer were appointed as Joint Secretaries.

CALCUTTA.

Dr. Rabindra Nath Tagore—At the invitation of the authorities of the Sri Mannu Lall Library, Gaya, Poet Rabindra Nath Tagore came from Bodh Gaya to visit the place, at 9 on the morning of the 11th inst. The library building was nicely decorated. On his arrival the poet was received at the gate by the proprietor and several other Behari gentlemen and conducted to the central hall. After garlanding the poet, the proprietor introduced to him the prominent gentlemen present. A four year old girl, daughter of a Bengalee pleader was then placed on the table from where she recited one of Tagore's beautiful poems. Her lilting baby accents delighted the audience hugely. Some Bengalee gentlemen then sang songs composed by Rabindra Nath and finally the poet himself sang one which enraptured the assembly. A Pandit then read an address of welcome to Dr. Tagore to which the latter made a suitable reply. Rabindranath then inspected the Library and showed great interest in the rare collection of manuscripts, one or two of which were 500 years old. The party was photographed before the poet took his departure.

Death of Sir Tarak Nath Palit—We regret to learn that Sir Tarak Nath Palit died on the 10th inst. in his Ballygunge residence. He had been suffering in health for some months past. The immediate cause of death was heart failure. The deceased would have completed his seventy-fourth year on October 23rd. Sir Tarak Nath Palit received his English education in the Hindu College whence he passed out as a Senior Scholar before he left for England in 1867. He was called to the Bar, and returned to

Calcutta in 1871. He joined the High Court and acquired a large practice, excelling as a cross-examiner and as an authority on the Evidence Act. In 1898 he sustained a severe bereavement by the death of his son, the late Satyendranath Palit, of Indian Civil Service. He retired from the Bar in 1900.

Sir Tarak Nath Palit was the son of Kalikinkar Palit, a wealthy bania, who was well-known for the munificence of his private charities. This trait was evidently hereditary. Sir Tarak Nath Palit will be long remembered as the greatest benefactor of the Calcutta University, his donations amounting to fifteen lakhs of rupees. A large part of the sum given to the University, was at first intended for a technical school to be started in Calcutta. Sir Tarak also devoted a large sum to the object of sending out Indian youths for technical education abroad. He received his knighthood as a New Year honour in 1913.

BOMBAY.

Manual Training in Schools—The following press note has been issued by the Bombay Government:—

Two years ago Government came to the conclusion that there was room for an extension of facilities for manual training in the several vernacular training colleges, and also expressed the opinion that, if a complete course leading up to the issue of teaching certificates could be arranged at those colleges, there would ensue a corresponding multiplication of manual training classes in connection with the larger primary schools, and a general impulse would be given to the spread of this form of instruction. Accordingly the Director of Public Instruction was requested to submit, after consulting the Principal of the Victoria Jubilee Technical Institute, a report on the possibility of taking action on the above lines.

The Director's report made it clear that it was both desirable and practicable to institute a manual training class at each of the vernacular training colleges for men and that the course should be based upon the system known as 'Sloyd' the ultimate object being to attach woodwork classes to primary schools, not for industrial purposes, but for the betterment of general education. The Director was also of opinion that a start should be made in opening manual training classes in the various high schools.

Government approved the Director's suggestions on the understanding that all the manual training to be given in the training colleges and high schools should be of the 'Sloyd' type. This well-known system is acknowledged to possess educational advantages not associated with the ordinary forms of manual training. The Director was therefore requested to submit definite proposals for opening a special 'Sloyd' class at the Dharwar Training College under an expert instructor, and also to report what the cost would be of introducing the system in each Government high school and training college. Dharwar was selected as the centre of

instruction as its training college already possessed suitable workshop accommodation.

As a result of the Director's inquiries, Government have obtained from the Mysore State, where the 'Sloyd' system has been successfully practised for some years the loan for a period of three years of the services of Mr. Srinivasa Rao who was recently Supervisor of 'Sloyd' at Bangalore. In that time it is intended that he should train two teachers from each Government Secondary School and Training Institution, so that at the end of the three years there will be a considerable number of trained 'Sloyd' teachers capable both of teaching pupils and of training new men as teachers in their turn. As soon as the first trained men are available 'Sloyd' classes will be opened at all the five vernacular training colleges and at the Belgaum, Dharwar, Bijapur, Sholapur and Satara High Schools. At these schools there are no difficulties about sites for the necessary buildings. Classes will be opened in all the remaining high and middle schools as funds permit and the requisite facilities can be provided.

It may be mentioned that the estimated cost of the whole scheme is Rs. 4 lakhs initial and Rs. 20,000 recurring, while that part of the scheme which is to be put into effect at once involves an expenditure of over Rs. 1½ lakhs initial and nearly Rs. 7,600 recurring. The Governor in Council believes that the money will be well spent on this scheme, as it will help to render the instruction in secondary and eventually in primary schools more practical and less academical than it has been hitherto and will stimulate the interest and powers of observation of the boys.

The Governor of Bombay on Mahomedan education.—His Excellency Lord Willingdon opened the proceedings of the Seventh Mahomedan Educational Conference which held its session at Poona last week. In the course of a short speech, he requested the leaders of the Conference to make it clear to Government what their object was in pressing for the adoption of teaching through the medium of Urdu in all Mahomedan schools. His Excellency said: "What, let me ask you, is the bedrock principle from which we are to advance? Is it to increase the efficiency of Urdu education itself, or is it in order to improve, generally, the conditions of the education of Mahomedans in order to fit young men to various occupations, which they may hope to enter into."

It may be explained that while the European schools admit only a very small percentage of Indian students—the maximum permitted is 15 per cent, which is seldom reached—the English-teaching schools, where instruction is given throughout through the medium of the English language, are attended mostly by Indians. The most conspicuous examples of this type of school are those conducted by the Jesuit Fathers and the girls' schools attached to Roman Catholic Convents. There are, in all, 428 Secondary Schools in the Bombay Presidency, including Sind, of which 90 are for European English-teaching. All

these 90 schools, except 2, are aided schools, there being no Government School for Europeans. It is worthy of note that no less than 49 of these 90 schools are Girls' Schools, whereas of the 338 Anglo-Vernacular Schools, only 29 are Girls' Schools. 12 of these 29 schools are Middle Schools. Of the 17 High Schools for girls, 2 are Government institutions, namely, the High School for Indians Girls in Poona and the one attached to the Mahalaxmi Training College for Women in Ahmedabad. Of the remaining 27 High and Middle Schools for Girls, all except 4 are aided institutions, three out of the 4, unaided schools.

ALLAHABAD.

Dr. Rabindranath Tagore.—Dr. Rabindranath Tagore who was on a short visit to Allahabad and staying as the guest of Mr. Peary Lal Banerji, Vakil, High Court, kindly visited the rooms of the Students' Sporting Club at No. 3, Stanley Road. The renowned poet was given a fitting and enthusiastic reception by the young men of Allahabad, large numbers of whom are members of this Club. The distinguished visitor was pleased with what he saw and wrote favourable remarks in the visitors' book which he opened, expressing his satisfaction at his having been afforded an opportunity of seeing for himself how well managed and useful an institution the Club was. He then gave a short address to the young men full of sound advice and expressed in his characteristic style, radiant with spiritual truths of inspiration towards all that is great and good in life. After the party had been photographed by Mr. M. L. Vishwakarma, the gathering dispersed.

TRAVANCORE.

Compulsory Elementary education.—During the regime of the late Dewan Mr. P. K. Kesava Pillai, a non-official member of the Travancore Legislative Council introduced in the Council the Compulsory Elementary Education Bill providing for the imparting of elementary instruction on a compulsory basis. Subsequently, the Government resolved to introduce an Education Regulation whose aim was to make elementary education with the imposition of an educational cess. The Education Regulation proposed by the Government did not meet with the acceptance of a section of the people who were of opinion that there was no need for levying an educational cess and that enough funds would be available if only some retrenchment of expenditure were effected in other directions. There was a discussion on the subject at the last session of the Travancore Legislative Council. The official and non-official members of the Council discussed the Bill with considerable ability and earnestness. The proposition was put to the vote and rejected by an official majority.

The Golden Jubilee celebration.—The Golden Jubilee of His Highness the Maharajah's College and High School for Girls was recently celebrated in a befitting manner and it was a unique success. The School building and its premises

were most elegantly decorated with foliage, ferns, crotons, flags and banners. Several shows were provided for the children's entertainment, gymnastics, conjurors and gramophones providing a variety of amusements.

Miss S. B. Williams, M. A., the late Lady Principal, who came from Madras specially for the occasion, arrived, and was received in the new Library Hall by Miss D. H. Watts, B. A., Lady Principal, the teachers and senior students.

His Highness the Maharajah arrived at the College and was accorded an enthusiastic reception. Among those present were Mr. A. T. Forbes, the British Resident, and Mrs. A. T. Forbes, and Dr. A. W. Bishop, Director of Education, and a few others. The Lady Principal received His Highness at the door of the Library and conducted him to the terrace overlooking the play-ground, where the students received him with the singing of the *Vanchi Bhumi*. Then followed a short programme of songs and drills. The finals of some of the races run during the week took place and His Highness then distributed the prizes to the winners. Miss Williams, in the name of the College, wished His Highness many happy returns of his Birthday. On the second day the celebration consisted of a public meeting held in the compound of the College followed by a variety entertainment. On the occasion there was a large gathering of ladies and gentlemen of all castes and creeds. The meeting was presided over by Mr. A. T. Forbes, the British Resident, who delivered an interesting speech.

Foreign.

GREAT BRITAIN.

The London University Courses of Lectures.—Important courses of lectures in Imperial Studies have been arranged at the Teaching Institutions of the University of London. In a pamphlet explanatory of the objects of the courses, the student learns from the Committee of Imperial Studies, presided over by Lord Milner, what means exist at the present time at the University for applying the methods of each science in turn to the elucidation of the special problems of the Empire. The modifications induced in the life of oversea communities by their contact with British civilisation have, says the pamphlet, been more profound than the reaction of other cultures upon the insular British community, and it is with these mutual actions and reactions and the incidental problems arising therefrom that the studies are concerned. India naturally occupies a very prominent place in the courses. In the History Section the list of lecturers includes Sir Theodore Morrison, K. C. I. E., on "British Culture in India," the Rt. Hon. Syed Ameer Ali, P. C., C. S. I., on "Islamic Culture in India," and Mr. T. W. Arnold, C. I. E., M. A., who has also chosen, "Islam in India" as a special subject. In the Languages Section it is interesting to note that Mr. C. P. Caspersz, late Judge of the Calcutta High Court, is to conduct the course in Bengali.

The Educational Review.

Among the numerous questions that turned up for discussion

A University at the Mysore Representative Assembly this

year, the most noteworthy was that of establishing a University for Mysore. It is well-known that of all the provincial administrations in India, Mysore sets more by the development of education than any other. When Mysore secured the location of the Tata Research Institute within her boundaries, it was considered that she had secured means of providing facilities for the highest education of her sons superior to those enjoyed by the young men of the rest of India. But partly from administrative difficulties and other causes not clearly known to the public, this Institute has disappointed expectations all round. It has not proved a centre of higher education for any considerable body of students, Mysorean or otherwise. It therefore behoves on Mysore which has set the example of progress to the other parts of India in all that goes for advancement to devise a scheme for a University of her own. We hope that the Mysore University that is to come will not be a pale copy of the institutions in British India that call themselves Universities but are all really only highly complex examining machines. The Universities in the provincial capitals of British India are primitive institutions the like of which are not found and will not be tolerated anywhere else in the civilized world. Latterly these Universities have made a feeble attempt to deserve the name of Universities by tinkering with their constitutions. Starting as a loose congress of High Court Judges, College Professors, Government officials, Vakils and others, whose only function is to devise

syllabuses of examination and appoint Examiners for the award of degrees, each so-called University has recently also taken on the work of arranging for a nominal inspection of Colleges once in a way and of paying supplemental salaries to Professors for supplemental lectures and complacently announced to the world that it has thereby become a teaching University. Mysore can start with a clean slate and it is hoped will not content itself with merely creating a Board of Examiners and calling it a University, but will start a real University which will provide real University education to its *alumni*, such as is, at present, not available in the rest of India.

At the same time it ought not to be forgotten that the resources of any University can but be limited; and the contemplated Mysore University should thereby avoid the temptation of starting more Faculties than it can usefully support. It ought not to aim at imparting to Mysore youths a smattering in numerous subjects, but ought to specialize in a few convenient fields of instruction and research. Since Indian History is taboo in Indian Universities, the foundation of a Mysore School of Indian History ought to be the first aim of the proposed University of Mysore. The Geography of India is another subject which, strangely enough, the existing Indian Universities think it beneath their dignity to touch. But the industrial progress of India will be possible only under the guidance of a University School of Indian Geography, and Mysore might very well serve a model to the rest of India by founding one. Faculties in Theoretical and Applied Science are not likely to be forgotten when a modern University is organized but it is hoped that the pro-

posed Mysore University will not make a fetish of historical English grammar and require a study of the language of the Goths that destroyed the civilization of Rome and the Vikings that scoured the North Seas a millennium and a half ago but substitute instead the study of that English literature which has made modern England the champion of light and liberty, the bearer of the torch of modern progress throughout the world.

In the September issue of the "Educational Review," we published a very thoughtful and suggestive article on "Pedagogic Laboratories" by Prof. C. R. Narayan Rao and we pointedly draw the attention of the Educational authorities both in the British Provinces and the Native States to the various observations made in the course of the paper. We agree with him in thinking that the provision offered in the Presidency Training Colleges for the professional qualifications of our Secondary school teachers is neither adequate nor up-to-date. We propose to consider briefly at first the present system of training teachers in India, before we proceed to examine, though necessarily briefly also, the practicability of some of the bold suggestions adumbrated in the article under review.

The avowed underlying principle of training teachers is that the character and the importance of the work of the schools can only be satisfactorily done by those who have received special training for it and who are prepared to devote their lives to it. The present method of recruitment to the Educational service, adopted by most managing bodies is rather short of that ideal. We note with regret that the Mysore Durbar, while it has been anxiously advancing the cause

of Education in the State, appears to have been neglecting to appoint trained men as teachers. We hold to the view that the head of the Department should have a deep insight into the technique of education whose progress we have learnt to measure not by the conventional quantitative but by the more severe qualitative tests.

To come to the Training Colleges. The prospective teacher who enters any of the Training Colleges in our Presidency receives a course of lectures on Descriptive Psychology, Method and Organisation, History of Education and some other work relating to any special subject. From the start, irrespective of his previous experience or otherwise, the candidate is put to teach some class without any regard to the classes or subjects which he will have to handle after the training is over. The staff of the College who supervise the practising section are more bent on spying out gaps in the knowledge of this fresh recruit and we fear that their criticisms based on scrappy notes and published periodically, lack both in direction and purpose, in so far as the lessons given by the fresh man do not test the theoretical knowledge of Pedagogics, for he has none at that stage. He is no doubt treated to a modest number of two or three criticisms and model lessons in a week, but we are of opinion that a great part of the value of these lessons is lost because the subjects are chosen haphazard and the lessons themselves are never intended to illustrate the principles of any particular method. They would serve the purpose for which they are given provided they are correlated with the topics either in Psychology or Methodology that may form the immediate subject of discussion in the lecture room. Thus our Training Col-

leges are only perpetuating more or less the old traditions which the modern educational needs have outgrown and we could so far discover not much effort being made either to introduce any reforms, say in the way of adding new subjects like Pedagogical Anthropology and Experimental Psychology or to overhaul the entire machinery so as to bring the training of Secondary schoolmasters in line with the systems pursued in all progressive countries. The stereotyped lectures on formal subjects which have not varied either in interest or range to suit the present requirements, and the almost mechanical habits of thinking about educational matters have rendered our teachers lacking in initiative and original powers. We may be permitted to add that to effect the above reforms it will be essential that the heads of Training Colleges should be experts—men who have undergone special training for some years in some of the important centres of Education in Europe or America. We trust that the interesting observations of the Professor in the opening remarks of his paper will come to the notice of the proper authorities and rouse them to look about, and as a result of such stimulation of ideas, let us hope that a science of Pedagogics will speedily spring up in our midst.

Germany, with all her faults and defects in other respects, at least in the educational world has attained to a very high standard of efficiency. In the matter of training their teachers, the Germans are a very thoroughgoing nation: while a German teacher is an object of envy, we have yet to adopt the Prussian principles and practices of the Royal Pedagogical Seminars and Probenjahrs and to assimilate the individual

freedom, elasticity and variety which characterise the organisation of the American and English training institutions. While we strongly deprecate the adoption of any rule-of-thumb procedure likely to convert the teacher into an automaton, and express a sense of dissatisfaction at the present system practised in our Training Colleges, which is very much behind the times, we would urge on the authorities the necessity to develop a faculty to select and assimilate whatever is best in foreign systems. The one year that a candidate spends in Training Colleges is, in our opinion, hardly sufficient and the practice of teaching without theoretical training is empiricism pure and simple: accordingly from a purely educational point of view, the two or more years that the German teachers devote in getting acquainted with experimental and functional Psychology, the science of Pedagogics, the latest educational methods and practical knowledge of them and the foreign systems, cannot be considered an excessive amount of time to be spent in professional training just as it now prevails in other Professional Colleges, such as Engineering, Law and Medicine.

It is hardly possible to name a single German or American teacher that is not a member of some Guild or Association which maintains educational experimental stations at which he may work even after his training is over or he may go back to take a more advanced course of training such as is not provided for in any of the Indian Training Colleges.

We are in sympathy with Mr. Narayan Rao when he states that none that are not specially qualified should be allowed to teach Psychology and that experimental Psychology should be introduced in our Normal Colleges. While on this sub-

ject we should like to quote the following from Prof. Bateson's address to the British Association delivered recently at Sydney: "At every turn the student of Political Science is confronted with problems that demand biological knowledge for their solution. Most obviously is this true in regard to education." The concluding paragraph emphasises Mr. Narayan Rao's plea that all teachers will do well to get a perfect knowledge of Ontogenic Psychology and the general principles of kindred subjects like Eugenics and Heredity. "A knowledge of the facts of nature is not yet deemed an essential part of the mental equipment of politicians—the future will behold the schoolmaster—compelled to share with the naturalist those functions which are concerned with the physiology of the race." We would like to ask if the heads of Educational departments in the several provinces are aware of the significance of these tremendous propositions and whether they will move to introduce any reforms in the existing state of affairs or add a course of extra collegiate lectures on these subjects which occupy almost the fore-front of modern educational thought.

In the opening paragraphs of his article, Mr. Narayan Rao shows the intimate relation of experimental Psychology and the science of Pedagogy and we believe that in addition to a teacher's knowledge of the subjects he teaches and his personality, his success mainly depends on his acquaintance with the science of education. We are only slowly being convinced of the supreme need of a thorough training for our teachers on the most modern lines and we do not hesitate to say that the training that is at present imparted is imperfect and far too short of the progressive

needs of the times. We refuse to believe that our teachers are eminently introspective and have no aptitude for scientific research, but on the other hand our point is that enthusiasm and spirit of investigation, like any other intellectual tendency, can be easily stimulated by models furnished by the professorial staff of the Training Colleges and by providing opportunities for further fostering such a spirit of enquiry by creating a scientific atmosphere in the educational world. We accordingly welcome the idea of "Pedagogical Laboratories" which we think are very desirable. A fairly central place like Madras would be a convenient station and we heartily invite the attention of all those interested in the intensive progress of education, especially the Department and the Teachers' Guild with a view to organise measures in the matter of starting an experimental station. We anxiously look forward to the day when all our trained teachers would be zealous to spend a portion of their holidays in the Educational Laboratory, tabulating the results of their observations in the class room or test them with all the delicate instruments which the modern science of functional psychology has devised; subject any of the educational methods to experimental investigation with the means provided by the directing agency, before adopting them without regard to local requirements; engage themselves in the preparation of statistical educational atlases for areas and communities which fall into natural groups; or take a course of special training in the statistical methods of studying Heredity; and generally make the progress of education conditional on the results of the Laboratory work which the Guild may publish from time to time. The progress of education

spoken of here refers to the intensive culture of the science of education and is different from the spread of elementary instruction among the masses, which judging from the departmental Blue Books is fairly satisfactory and, if the present rate is maintained, bids fair to become universal at no distant date.

We have very briefly touched on the subject of post-graduate study for the L.T.'s in their professional knowledge and in the present condition of things and judging from the spirit with which the Department approaches every new subject, we fear that that is bound to remain in the stage of suggestion for some time. We, however, press for larger measures of reforms in all rational lines in our Training Colleges as tending towards the realisation of this ideal in the near future.

It is one of the many anomalies of the Principal Government in India P. Seshadri, that, while Indians have M. A. been considered fit to hold the highest judicial and administrative posts and while they have discharged the duties of those posts with honour and distinction, they are generally disqualified from entering the close preserve of the Indian Education Service. The colour-bar is nowhere more rigorously enforced than here. For no Indian, however well-qualified he may be, may enter the Imperial Service. There have been, however, a few exceptions. And this pernicious example has been followed by other than Government institutions who are free to do what they like. Apart from the injustice to the Indians, there is also the loss which education suffers by being deprived of the services of well-qualified men. Hence it is a matter for sincere congratulation that the Municipal Council of Salem should

have secured the services of Mr. P. Seshadri as the Principal of their College. That an Indian should have been selected for the appointment is itself gratifying. And that the choice should have fallen on Mr. Seshadri is good for what may by some be called the experiment made by the Municipal Council of Salem. For there are Indian Principals of First and Second-grade Colleges who have given very good accounts of themselves. And the appointment of Mr. P. Seshadri will strengthen the tendency to place Indians in charge of responsible posts in the Education Department. Those who know Mr. Seshadri know that he will prove an ideal Principal. He is an erudite scholar, well versed in English Literature, and by no means an ordinary writer of English prose and verse, a strong but tactful man, an eminently sociable friend, and, above all, one best calculated to arouse the enthusiasm and appeal to the imagination of the young who are committed to his charge.

Mr. P. Seshadri was born on the 31st August 1887, and hence is a young man in the full vigour of his youth and with his manhood before him. His father being a touring officer, Mr. Seshadri led an itinerant life as a student. For he studied in various institutions at Bellary, Nellore, Rajahmundry and Cuddalore before he joined the Pachaiyappa's College at Madras. He was a student of Mr. Mark Hunter's at Rajahmundry and of Messrs. K. B. Ramanathan, J. A. Yates, and J. R. Cunningham at Pachaiyappa's. Invariably he was the first student in English in all his classes. As a student he was active in literary and debating societies and took a prominent part in the social life of the College. It was the ambition of the boy Seshadri to be the Principal of a College. And unlike boys'

dreams, this dream of Seshadri's has been realised, thanks to his ability. Even as a boy, Mr. Seshadri showed signs of his powers of English composition by contributing articles to the newspapers. As a student, he helped in the publication of a provincial paper at Rajahmundry in the Northern Circars.

Mr. Seshadri passed the B. A. Degree Examination in 1906, taking a high rank in all the subjects. He was awarded all the medals and prizes open to a student of his class at Pachaiyappa's. He also got special English prizes, and, in awarding him the Sir Seshiah Prize for the best essay in English, the Examiners said that they "had no difficulty in awarding the prize" to him.

He was appointed tutor in English at Pachaiyappa's the day after the Convocation. And, almost from the beginning, he was entrusted with responsible work, in the way of teaching important subjects to the higher classes. Thus Mr. Seshadri has nearly eight years' experience of teaching, although he is only 27. He passed his M. A. Degree Examination in 1910 and was soon made Lecturer in English at Pachaiyappa's. He has since been doing practically a Professor's work. The special features of his work at College have been acknowledged by those most competent to judge to be careful preparation, great industry and thoroughness.

Mr. Seshadri has identified himself completely with the life of the College. He is the Vice-President of the Literary Society, a Secretary of the Pachaiyappa Club and a member and sometime Secretary of the College Council. Of his work in the last capacity, special mention is made in the College reports. And Mr. Seshadri's work has not only had the approval but also the admiration

of successive Principals of the College. Thus MR. ROLLO writes :

"Since the time of my coming to this College I have been in the closest touch with Mr. P. Seshadri, who has throughout been my right-hand man. I have formed an opinion of him so high that it is difficult to express it without seeming guilty of exaggeration. I should say that he is cut out by nature, and endowed by experience to be the Principal of a College. His ability is of the highest, and combines great retentiveness of memory with remarkable powers both of discrimination and of origination. He has a curiously rare and valuable combination of fervour and restraint. His scholarship is extremely wide, and accurate and relevant, and his power of exposition too is remarkable. Further, he is absolutely certain to be popular with students: he has shown here an interest in individual students and a care over them that have immensely increased his influence. Nor is he likely ever to have any friction with subordinate professors, for his tact and kindness are exceptional.

In this College, in addition to his English work, he has been Secretary to the College Council, that is, he has been the pivot of organisation. I have often admired his complete grasp of details, his faculty of adaptation and the promptitude and reliability of his decision. A great deal of responsibility has been thrown upon him here, and he has always proved himself a master of College arrangement.

He has taken a large share in public educational affairs outside the College. About this I need not go into detail—all those who know him (and I have come to know him particularly well) are completely convinced that his comparative youth would in no way handicap him in a Principalship; his capacity, and still more, his experience of responsibility, would guarantee his immediate success. And he has got a career of great brilliance before him."

Mr. Seshadri has been much more than a successful lecturer. He has been contributing literary articles of great value fairly frequently to the *Indian Review*, *East and West*, *Calcutta Review*, *Educational Review* and *Indian Education*. He was for some time Joint Editor of the "Indian Stage," a journal concerned with the drama. In this connection, it may be mentioned that Mr. Seshadri is greatly

interested in the Fine Arts. He has published a valuable work on John Leyden, an Anglo-Indian poet, which has been very well received both here and in England. Thus the *Academy* wrote: "The Introduction gives a brief, but good presentation of the various aspects of Leyden's powers.....The sketch is able and sets forth a character who seems to have been a prodigy of learning and of virtue.....It is good to find a desire to do homage to Anglo-Indian literature such as this book represents." And the *Madras Mail*: "Leyden's verse was worth rescuing from the oblivion into which it has fallen, and Mr. Seshadri must be congratulated for beginning what it is hoped, may be a series of volumes on Anglo-Indian poets.....Leyden deserves honour in Madras, and Mr. Seshadri's book is on the whole a worthy memorial."

Mr. Seshadri has also adapted in English a Sanskrit Love-poem by Bilhana which is deservedly popular with all lovers of Sanskrit. Of this translation, the Hon'ble Mr. Justice C. V. Kumaraswami Sastri writes in the *Educational Review*: "Mr. Seshadri's translation deserves something more than an ordinary welcome. It is not merely a translation but a poem that deserves to be studied for its own sake.....The whole poem, while maintaining a high level of beauty and interest contains passages where the harmony and shifting brilliancy of colouring, rich with images of oriental splendour remind us of the witchery of the original."

Mr. Seshadri has edited Matthew Arnold's *Essays in Criticism*, Johnson's *Addison*, and Dryden's *Preface to the Fables*, among others. His literary works have met with very warm recep-

tion at the hands of distinguished men of letters in England.

FREDERIC HARRISON writes :—

"I have read with care and great interest your essay on 'George Eliot' and I do not hesitate to say that it is a really remarkable example of the thoroughness with which our Hindu students assimilate English culture and of the literary skill and sound critical judgment they can acquire in the Native Colleges.

"Your essay seems to me a truly just and thoughtful estimate of our famous novelist. And your mastery of pure and correct English prose is astonishing in one who, I presume, has not spent many years in our island here."

DR. SIDNEY LEE writes :—

"I have to thank you for your courtesy in sending me your able and interesting paper on 'The Evolution of Shakespeare's Art.' Your point of view seems to me to be very just, and your treatment of the theme comprehensive in a brief space. I warmly congratulate you on so well-written an appreciation of Shakespeare's work. It gives me much pleasure to know that the study of Shakespeare makes such good progress in India."

W. M. ROSSETTI writes :—

"I feel much indebted to you for sending me your poem on 'Swinburne.' It is, so far as I remember, the best thing I have seen in verse as a tribute to the illustrious poet; a good, sonorous and effective piece of English composition, in which it is difficult to discern anything that might not be the writing of an Englishman.....The poem on 'Meredith' is a worthy associate for the one on 'Swinburne.'"

DR. DOWDEN, LL. D., writes :—

"Accept my cordial thanks for the interesting studies you have sent me of 'George Eliot' and 'William Watson'. It is a pleasure to see critical essays by so young a writer, showing so fine an appreciation of literature, and reading of so wide a range."

PROFESSOR COURTHOPE writes :—

"I am much obliged to you for sending me a copy of your address at the 'Shakespeare Celebration' in Madras, which I have read with much pleasure. It condenses admirably into a very short compass what is, in my opinion, the true view of Shakespeare's dramatic development, and

ought to be very useful to students of Shakespeare's plays."

Mr. Seshadri has not by any means confined his activities in Madras to the College. He has been in great requisition by Societies to deliver addresses to them and the addresses he has delivered, mostly on literary subjects, will cover a respectable volume. He has been a prominent lecturer before the South Indian Association. He took an honourable part in the formation of the South Indian Branch of the English Association and has been its energetic Honorary Secretary since then.

Mr. Seshadri is just now engaged in writing Indian poems like 'Bilhana' and in preparing a dissertation for the Degree of Doctor of Literature of the University of London. He hopes to go to England shortly to take the degree. He is highly esteemed as an educationist, even outside the Presidency, as shown by the fact that the Government of Bengal recently sent the proposals relating to the establishment of a Technological College for favour of his opinion. He is also in correspondence with men of letters in England and Sir Sydney Lee sent him one of his recent books with his compliments.

Mr. Seshadri's appointment as the Principal of the Salem College has been very well received here, especially by the Press. Thus the *Madras Times*: "The Salem College must be congratulated on the appointment, as the Indian Principal elect is not only an able teacher, a wide scholar, a fine gentleman, but a rational disciplinarian who deservedly commands respect."

The *Madras Mail*: "Mr. P. Seshadri has been taking a keen interest in all the progressive educational movements in this Presidency and is one of the few among the younger generation of educated Indians who have cultivated literary pursuits as

a hobby. He has edited the poems of John Leyden, an Anglo-Indian poet, and his work has attracted attention in Indian and English literary circles as that of a promising Indian scholar. He has also written many excellent original verses in English, and his latest poetical contribution is *Bilhana*."

The *Hindu*: "Mr. Seshadri is an accomplished English scholar, and as a lecturer in Pachaiyappa's College, has been highly popular with the students, and has earned the esteem of the Principal and other members of the staff. He is bound to be a successful and popular Principal at the Salem College."

Mr. Seshadri is very fond of books and has spent a good deal on them, so much so that he has one of the finest private libraries of English literature in this part of the country.

Mr. Seshadri will be very much missed in Madras. This is testified to by the numerous farewell entertainments which have been given in his honour. And, "in accepting the resignation of Mr. P. Seshadri, the (Pachaiyappa's) College Council desires to place on record its high appreciation of the excellent and varied services rendered by him to the institution."

While we undoubtedly rejoice that Mr. Seshadri has found an opening adequate to his capacities and enthusiasm, we cannot close this brief sketch without expressing the regret that the Trustees of the Pachaiyappa's College should persist in the niggardly policy of paying their men most inadequately, which has already cost them distinguished men like Professor K. V. Rangaswamy Iyengar, Mr. S. Doraiswamy Iyer and many others and which is now costing them men like Principal Seshadri and Mr. C. S. Srinivasachariar. Like

the Bourbons of old, the Trustees will neither forget nor learn. Evidently they imagine, that by wasting money on brick and mortar, they can add to the stability of the College. They have eyes and they see not, if they think that students are going to flock to their College, because of spacious buildings. The quality of the teaching provided in the building will be the determining test. It is to be hoped, in the interests of the premier Hindu institution in Madras, that they will live and learn. But there is not much room for hope, seeing that even after the new scheme which was heralded with a flash of trumpets, the Trustees do not seem to have mended their ways. But perhaps this is a case in which things must become worse before they can be remedied.

Meantime, we offer our hearty congratulations to Principal Seshadri and wish him a long and distinguished career as an educationist.

Prof. Perry, to whom the educational world owes so much in the matter of the Reform of Mathematical Teaching, echoes of

which may even be heard in sundry parts of India, presided this year over the Educational Science Section of the British Association for the Advancement of Science which met at Sydney on August 21, 1914. There in his well-known vigorous style he denounced the conventions of the school room. "We ask the schools for mental power as of old one asked for bread, and they give us a stone. No doubt public school form is a beautiful stone, a diamond; but we want some bread as well, even if it were only in the Falstaffian proportion of

bread to sack. For my part, I do not see why the average boy at school should not have reasoning power, and a love for reading and knowledge as well as good manners, and this is why I ask for a great reform in our schools. We want from the school what Nature has not been accustomed to give, and what home-life cannot, the development of the intellect, and the school fails to give it in ninety-nine out of every hundred cases."

Now that people in Madras clamour for the simple, old system of a pass in a number of compulsory subjects as credential for Matriculation at Colleges, we draw their attention to Professor Perry's remarks on this subject. "We must have some compulsory subjects, and I think that any body may be taught any subject—to some extent; but we ought to have as few of these compulsory subjects as possible, because any subject may be found very difficult by certain classes of intelligent minds. And it is surely ridiculous when a clever mathematician, well-read in natural science and fond of English literature, is plucked for his degree because of his poor Latin or Greek. I knew a case when the first classic of the year would have failed to pass his 'Little-go', only that special arrangements were made to let him through his mathematics easily. My own career was nearly ruined because I failed in a French examination." The Madras Senate now wants to revert to a rigid system of passes and failures in the face of this weighty pronouncement of the greatest living educational authority, because we, in India, can never sympathize with or understand this elementary principle of education, that "a man who trains dogs or seals or bears or other animals makes a close study of their minds. In the same way we must re-

cognize that one boy differs from another, and study the mind of each boy. If a boy is not very receptive of an important subject we must do our best with him and try to settle what is the minimum with which we ought to be satisfied. Only a few subjects ought to be compulsory on all boys." These should be no more than the power to speak, read and write his own language, and in English, to be able to do easy computation and to have an exact knowledge of the simplest principles of natural science from his own observation and experiment. Only those intimately connected with school-life in India—and very few Fellows of the University are so—can realize how the compulsory subjects in our schools are much more pretentious than the above and withal treated not in a practical but a very doctrinaire spirit. It is the grossest injustice to the child to stretch him on such a Procrustean bed.

Of the various school subjects that are thus forced down the throats of all pupils, Prof. Perry, himself a great mathematician, selected Geometry for special denunciation. This subject rebaptized "Elementary Mathematics" is one of our compulsory subjects of which the teaching is abominably bad and examination execrable, yielding ridiculous assessments of a pupil's school work. Hence Prof. Perry's remarks are worth paying special attention to. "A boy is cocksure about everything. He is incapable of reasoning about complex things. And when we try to teach him to reason about simple things we must be quite sure that they really are simple to him, that he understands them. For example, many educationists say that the study of Geometry is just right for a boy. Well, yes, for five per cent. of all boys, boys who can take in abstract

ideas. They take to Euclid as a duck takes to water. But for the other ninety-five per cent. Geometry is very hurtful, because unless they continually experiment with rulers and compasses they do not understand what the reasoning is about. In ancient times only very old and exceptionally clever men were allowed to study Geometry. We now assume that it ought to be an easy study for the average English boy. Generation after generation we stupefy the average English boy with demonstrative Geometry, and we call him a duffer so often that he thinks himself a duffer.....And yet in my opinion if this average boy were properly taught in school he would prove to be very superior to the boy who is called clever." What is true of Geometry is true of most other school subjects on which set, formal lessons are given in schools.

Prof. Perry's remarks on compulsory language study—not for purposes of composition—but for the study of literature, have much bearing on the recent demand in the Madras University for the compulsory study of literature in South Indian languages. So far as the difficulty of the study goes there is nothing to choose between Latin and Greek books and the poetry of South India. "The worst of it is that the average boy who has done.....Latin and Greek at school gets absolutely no love for the classics; he never reads a Greek or Latin author after he leaves school. It is not the method of teaching that is wrong; it is merely that Latin as a school subject for the average boy must be altogether condemned. It takes from him all interest in every kind of literature; it makes him dislike reading." Is this not word for word true of our schools and colleges if we substitute the so-called "Verna-

culars," i.e., the languages in which South Indian literature is written for Latin or Greek? "Any attempt at coercion, unless it is the very gentle coercion of a person whom he loves, is fatal; even coaxing is not always good. [A boy] assimilates knowledge from everything which he does, and therefore he ought to be induced to do things which not only keep him healthy, but which give him knowledge and teach him to reason. Do you remember how angry Lanfranc of Bec was at the idea that any pupil could be forced to learn; he said 'it turned men into beasts.'" We wish that the advocates of the compulsory study of Vernacular Poetry understood this or for the matter of that, understood a bit of the psychology of boys, before they undertook to legislate for them.

Prof. Perry has no patience with cant of any kind. Of late we have had many sermons from men in power and men who pose as leaders about the necessity of religious and moral education for the purpose of improving the character of our student population and committees galore sat and deliberated on this subject. Prof. Perry cuts the Gordian knot easily. "The great danger in school life is that it may hurt individuality, originality, because a boy, however harum-scarum, is naturally conventional and imitative. Good form comes easily, therefore, and the master is more than satisfied, he is proud. He often speaks of it as *character*, but he is quite wrong. Character comes from home life, not school life, which indeed is antagonistic to character. It comes from contact with fathers and mothers, brothers and sisters, relatives and friends."

There is as much difference between Elementary ^{versus} Secondary education the work done by boys in the various classes of an "Elementary" school and the corresponding classes of a "Secondary" school as there is between six and half a dozen. Yet the Madras Educational Department has raised a wall of separation between the two and penalized in more ways than one the transfer of a child from one to the other. This distinction was first introduced in the interests of a theory that a primary school purveys for the needs of those who seek education during childhood and the secondary school for those who seek education both during childhood and adolescence; on this was erected another theory that secondary education was a whole and organically different from elementary education. We do not propose to devote time or space to the arid discussion whether these theories rest on foundations other than those of sand. But whatever the theories of the Madras Educational Department, there is absolutely no difference between the work actually done in an Elementary school and the lower classes of a Secondary school. And to keep up a distinction where there is no difference is neither sound policy nor common sense. This question was recently raised in the Madras Legislative Council but nothing seems to have come out of the promised enquiry. In England they are fighting against this unnatural divorce of one part of education from another. Mr. D. R. Harris discusses the question in the pages of the September number of the *Educational Times*. He rightly says that "all education after twelve is really Secondary education rather than Primary [or as Madras has christened it 'Elementary'],

whether it is now carried on in a secondary school or not—all education, that is, that is worthy of the name." It behoves then that all obstacles to the transfer of pupils from the so-called Elementary school to the so-called Secondary school should be pulled down as soon as possible. The present Madras Educational Rules on this subject have led on the one hand to so much petty tyranny on the part of Departmental underlings and to so much dodging of rules and pettifogging on the part of the unscrupulous school master that we could, if need be, a pretty tale unfold of happenings in sundry places. But as we expect the Department will soon abolish the absurd rules that now obtain we desist.

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RAO BAHADUR M. RANGACHARYA, M.A.

SCHOLAR—SCIENTIST—EDUCATOR.

EARLY DAYS AND EDUCATION.

Rao Bahadur M. Rangacharya, who retired on the 1st of September last from the service of the Government of Madras as Professor of Sanskrit and Comparative Philology in the Presidency College, is a native of Mysore. He was born in March 1861 at Melkote,—a few miles away from the banks of the Kaveri near Seringapatam—a place of considerable importance in the religious history of South India. Its interest lies in the fact that the great Vaishnava reformer Ramanuja sought refuge at Melkote from the persecution of the then Chola chief near Srirangam, and lived there for a number of years. It is even to-day a large Vaishnava settlement and a sacred place of pilgrimage. Mr. Rangacharya belongs to an orthodox Vaishnava family of Malur near Chennapatna in the Bangalore District, a place known to have been of Vaishnava importance in Mysore even before the days of Ramanuja. His great-grandfather was a Sanskrit scholar and Pandit of repute in his native place. On his mother's side, his descent is from an orthodox Vaishnava family of Melkote. His mother's grand-father became a *Sannyasin* monk in later life and presided over the Yatirajamutt or the 'Monastery of Ramanuja' in the place. Mr. Rangacharya's aptitude for Sanskrit learning and his markedly religious temperament may therefore be traced to his parentage. It has not been possible to gather much information about his early days. His

parents seem to have been in poor circumstances; and their very poverty obviously acted as an incentive goading him on to earnest and attentive work in his school days. The historic and religious associations of his birth-place as well as of Malur and Seringapatam, in which last place some years of his boyhood were spent, the geographical position of Melkote, the richness of its mountain scenery and the beauty of the neighbouring Kaveri valley—alternately picturesque and grand—must all have exercised their subtle influence on his young mind. He received his early English education mainly at the Wesleyan Mission High School in Mysore, where he won distinction and prizes and was promoted from the IV to the VI class in the middle of a year and selected to appear for the Matriculation Examination of the Madras University after a course of instruction for a single term in the VI class. He succeeded in passing the examination and took a place in the first class in the pass list. Such cases of "double promotion" occurred in those olden days. The prolonged period of school life imposed by the regular educational rules often tended by the dead weight of their routine to dullen acute intellects; and to prevent this tendency the rules were then allowed to be elastic by giving discretionary power to Headmasters of schools to give this sort of "double promotion" to deserving



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bright lads. Rev. Henry Haigh, the then Principal of the Wesleyan High School in Mysore, has observed in the testimonial which he granted to Rangacharya, that he is eager after knowledge and very persistent in anything which he takes up—characteristics which mark his life even now, when his health is known to be poor. From Mysore, he went to the Madras Christian College, then under Dr. Miller, for his collegiate education. In 1881 he passed the B. A. degree examination, topping the list of successful candidates from that college, and occupying the third place in the University pass list. His college career was bright and distinguished. In those days the course of studies for the B.A. degree examination was more general than now, and included in its compass English literature, Indian literature, English and European history, psychology, controversial British philosophy, and a special subject. This special subject in his case was Physical Science; and it consisted of Physics, Chemistry and Botany.

In the eighties of the last century the medical profession in South India was still a taboo to the orthodox Brahmin student. Hindu sentiment revolted against the very idea of a Brahmin conducting a dissection or a *post mortem* examination. The new spirit, which English education had brought into the country, would pay little regard to such sentimentalism. Mr. Rangacharya was also full of this new spirit. Moreover, the problem of a career had to be definitely solved by him one way or the other. He

had somehow acquired an aversion for the profession of law; and in keeping with his spirit of independence and love of humanitarian service, he elected to study for medicine. On the 1st of October 1881, he joined the Madras Medical College, and before the end of 1884 he had passed two out of the three examinations necessary in those days for taking the degree of M. B. and C. M., thus giving evidence of satisfactory progress in his knowledge of Physics, Chemistry, Botany, Human and Comparative Anatomy, Human Physiology and Materia Medica and Therapeutics. His special abilities and attainments in science soon attracted the attention of Dr. Rogers, who was then the Professor of Chemistry in that College, and procured for him, under somewhat peculiar circumstances, a sessional tutorship in Chemistry under the name of 'Chemical Scholar.' This was a fortunate circumstance; it discovered the natural bent of his mind to be in the teaching line. Mr. H. B. Grigg, of the Indian Civil Service, an officer full of ideas, energy and organising power, was then at the head of the Department of Public Instruction; and through Dr. Keess, the then Principal of the Medical College, he offered at that time the Lectureship in Science in the Kumbakonam College to Mr. Rangacharya, which he accepted after much hesitation. In July 1884 he joined this appointment. Two years later he took his M. A. degree in Physical Science, which, according to the University regulations of those days, comprised

Physics, Chemistry—Organic as well as Inorganic—Geology, Mineralogy and Palæontology. His student-days may, in a sense, be said to have been over in 1886; and enough has been mentioned to show the fulness and varied character of his academical equipment. An old friend and colleague of his often used to speak of him, half in jest and half in earnest, as an 'Omniologist'; and it was with such academic qualifications that he entered the sphere of practical life as an educator.

SERVICE IN THE EDUCATION DEPARTMENT.

Kumbakonam, where he had his start in life as an educator, was then a centre of great intellectual activity, and was known as the 'Cambridge of Southern India.' Many of our best men have come from there in the past; and in the seventies and the early eighties, the staff of the Government College there contained some of the finest intellects in Southern India. Keen and subtle thinkers like Vaidyanatha Aiyar, brilliant mathematicians like Ranganatha Mudaliar, Srinivasa Aiyar, Sundara Rao and Hanumanta Rao, devoted scholars like Sundararama Aiyar—a group of noteworthy intellectual luminaries—were for years presided over by T. Gopala Rao, that 'Arnold of South India,' who was an inspiring teacher, a profound scholar, and a personality that easily radiated around him purity of thought and life and devotion for learning. That college was then a small University in itself. Versatility in learning was a

marked feature of every one of the members on the staff; and the very atmosphere of the institution was surcharged with a high degree of acute intellectualism and moral idealism. The condition of English-educated India about that period is of great value to understand aright the lives of the then leaders of Indian society. A wave of dry intellectualism was passing over the land as the result of the teachings of John Stuart Mill and his school of keen analytical thought. Herbert Spencer was synthesising knowledge and constructing, as an evolutionist, a grand tower of outlook, from whence men might see an increasing progress and growing richness and variety in human civilisation with the progress of the suns. Western culture had in this manner stirred the mind and heart of India to their deepest depths; and the culture of a man of modern education in the country had come to be measured by the freedom with which he challenged the traditional religious and social ideals of the people and by the fervour of destructive enthusiasm which he showed in his criticism of all Indian institutions. This sort of general unsettlement, caused by the new and sudden impact of Western civilisation, was finding expression in various social and religious movements: Brahmoism, Arya-Samaj, Social Reform, Theosophy, and an incipient sense of Indian Nationalism toning down the extreme admiration for Western ideals of progress—these and other similar forces were at work wherever English-educated

Indians lived their lives in India. It was at such a time and in such an atmosphere that Mr. Rangacharya found himself, when he started in life as a Lecturer in the Government College at Kumbakonam. His mind found a stimulus and a new encouragement in the intellectually and morally electrified atmosphere there; and from the beginning of his career, he was able to exercise a sort of fascination over minds possessed of a passion for culture. Wherever he happened to be, he would be having near him a small academy, so to say, of literary and intellectual men. Very early in his career, he was known there at Kumbakonam as the 'Professor,' for he had about him the marked manner of the born professor; and even now his stimulating monologues in the parlour betray the innate professor in him. His inherited religious nature, strengthened and fortified by the vigorous influences prevailing in such an atmosphere of intellectual culture and moral idealism, first expressed itself in Kumbakonam in the valiant defence he set up for his religion against the attacks of Dr. Lunn, a Christian Missionary more warm than discreet, at a public meeting in Kumbakonam. He became known from that time as an eloquent and powerful speaker, a good controversialist with large resources, and a staunch Hindu by conviction. Educational officers in the service of Government cannot long continue in one place and develop local associations and personal attachments in relation to any particular institution.

The exigencies of the service and the prospects of advancement therein of the officers themselves together tend to make their transfers from one college to another very often necessary and unavoidable. Mr. Rangacharya was accordingly more than once shifted to Rajahmundry as Science Lecturer in the Government College there. What Kumbakonam was in the Tanjore District, that Rajahmundry was in those days in the Northern Circars, being however, a little more aggressive in matters of social and religious reform. He seemed to be, therefore, quite in his element again, whenever he found himself at Rajahmundry. The generally depressing influence of Government service could not benumb the spirit of a gifted man like him, when the outside conditions were so very favourable to vigorous thinking and preaching. He had Sanskrit learning, and had also been trained in modern science, in which he had shown special aptitude for assimilation and educational work. A mind endowed and equipped like his is naturally cautious and constructive in its tendencies. He therefore proved a sane critic of Hindu social and religious problems. Mr. Nyapati Subba Rao Pantulu and others of his type of thought there found in him in their maturer days a strong supporter of true social progress, as well as of Hinduism and Hindu social polity, as embodying the enduring ideals of a great and historic people.

In 1890 he acted as Professor of Chemistry in the Presidency College, Madras,

an appointment which he was the first Indian to hold even temporarily. Immediately before this, he had been placed on special duty to study what may be called electrical mechanics under Mr. G. K. Winter, the well-known electrician of great ability and originality in the Madras Railway Electrical Engineering Department at Arkonam. Mr. Rangacharya acquitted himself very well during this period of special duty; and the results of his work in connection with the detection and measurement of the resistance of electrolytes and the polarisation of electrodes according to Mr. Winter's own new method,—which he had himself previously tested and elaborated,—were found by Mr. Winter to be accurate and of great value. This work of his was highly praised by that able electrician who further complimented him on his successful application of that same method for the measurement of the surface-resistance of electrodes. His aptitude for original work did not find enough scope in the then poorly equipped laboratories of South Indian colleges; and he was almost always overburdened with heavy teaching work. When he was acting as Professor of Chemistry in the Presidency College, his services were lent to the Government of H. H. the Maharajah of Travancore, by whom he was appointed to serve as Professor of Chemistry in the Maharaja's College at Trivandrum. There he met his old friend Mr. K. Sundarama Aiyar, M.A., whose services had similarly been lent to Travancore so that

he might be tutor to Prince Martanda Varma there. Mr. Rangacharya's stay in Trivandrum was for less than two years; and the echoes of the reverberating reputation, which he won there for himself as an orator and scholar, may even now be heard distinctly. It was then that he saw for the first time the late Swami Vivekananda, whose grand national work was the dynamic expression of the thoughts and labours of numerous Indian idealists like Professor Rangacharya. He returned to British service as Lecturer again at the Rajahmundry College. In 1894 he was appointed by the Government of Sir Arthur Havelock to act as Professor of Physics in the Presidency College, which office he held for over a year. In 1896 he was made a Fellow of the University of Madras. When the chair of Sanskrit and Comparative Philology in the Presidency College became vacant in 1901, he was appointed to it after some struggle and agitation owing to an endeavour to have the professorship bestowed on a European Sanskritist. It is from this office that he at last retired, after holding it with distinction for over thirteen years. The office of the Curator of the Government Oriental Manuscripts Library, which, after the retirement of Dr. Gustav Oppert had been converted into an honorary appointment, and had been tacked on to the Sanskrit chair in the Presidency College, also came to him as a matter of course along with his Sanskrit professorship in the Presidency College. Though the value of the office, looked at from a pecuniary point of view,

had been thus reduced, its responsibilities had become greater, and more work was expected of the holder of that office than in the days when it carried a local allowance as remuneration. In this capacity of Curator, the work which Mr. Rangacharya has done is of inestimable value. It has meant the breakdown of his health, as those, who have personally seen and known his work, are able to testify. In January 1901, he was appointed to be Registrar of Books, which office he still continues to hold. The duties of this office require a good knowledge of South Indian languages, and Mr. Rangacharya was recognised to be the most competent man to take charge of them, when the late Mr. V. Krishnamachariar died and the appointment became vacant. On the occasion of the Delhi Durbar in 1903, Lord Curzon, as Viceroy, conferred on him the title of Rao Bahadur as a personal distinction in recognition of his educational work and public services. He was a member of the Committee on Moral and Religious Instruction, to help the deliberations of which he is known to have contributed a valuable memorandum. It is understood that the report of that Committee is being considered by Government.

As Curator of the Oriental Manuscripts Library, which office he held from August 9, 1901 to Sept. 1, 1914, he has rendered splendid service to the cause of Sanskrit learning. The establishment of the Library was re-organised in his time. There were five hands working therein in 1901, and they have now become twelve

in 1914. About Rs. 340 were spent in 1901-02 for the collection of manuscripts; in 1913-14 the expenditure under this head came to be quadrupled. The expenditure under the head of purchase of manuscripts increased threefold, and that under purchase of books sevenfold. The number of manuscripts acquired for the Library increased from 112 in 1901-1902, to 934 in 1913-14, and about 6600 MSS. were altogether added to the Library during his time. The important work of publishing descriptive catalogues was carried out very vigorously. The volume of work done in this line has been large; and almost all the existing descriptive catalogues, consisting of 25 volumes comprising about 8800 Royal Octavo pages, were published in his time. The catalogues are highly appreciated by Orientalists in all parts of the world for the "thorough scholarlike way" in which they have been prepared and published. We reproduce here the account, which he himself has given of this work of his in his note submitted to the Orientalists' Conference held at Simla in July 1911:—

'Ever since I became Curator of this Library, my aim has been to make it a kind of literary laboratory, so to say, well suited for the conduct of Oriental study and research. The progress in this direction has been, chiefly owing to financial causes, necessarily slow though steady. A number of periodicals and printed books, useful for consultation by the members on the staff of the Library as well as by students aiming at research and advanced scholarship, has been added

to the Library; and every year small further additions are made to this collection so far as funds permit. The publication of the descriptive catalogue of the Sanskrit manuscripts therein is being vigorously pushed on; a beginning has been made in getting the descriptive catalogue of Tamil manuscripts printed, and material is being gathered for the preparation and publication of the catalogue of Telugu manuscripts. It is moreover made a part of the work in the Library to issue from there from time to time critical editions of such works as may prove of interest to Oriental scholars. One such work has been already brought out with an English translation—the *Sarva-Siddhanta-Sangraha* of Sankara—which gives an epitome of the important systems of philosophy current in India at the time when its author lived. Another work is now nearly ready for publication; and it is a mathematical treatise by a Jaina author belonging to the 9th century. As it is expected that it will prove useful to the student of the History of Indian Mathematics, it has also been translated into English and annotated throughout. A poem on the life of Buddha by Buddhaghosha, who is probably the monk that is known to have carried Buddhism from Ceylon to Burma in the 5th century, will soon be sent to the press. These things are mentioned here with a view to show how far and in what manner work helpful for research and critical scholarship is being carried on in this Library under the orders of the Government of Madras.'

The *Ganita-sara-sangraha* has since been published; and, in the language of Dr. Hillebrand of Breslau in Germany, it shows him to be "a high authority in Sanskrit as well as in Mathematics."

The office of the Registrar of Books is one, of which the public generally does not hear much. It was created in the sixties of the last century under the provisions of Act XXV of 1867 for the regulation of printing presses and newspapers and for the preservation of books printed in British India. For forty years the late Dewan Bahadur V. Krishnamachariar held the office since its creation. On his death, Rao Bahadur M. Rangacharya was, as already pointed out, appointed to it in 1907, and he still continues to hold it. The compulsory registration of all books and book-like works, excepting commercial catalogues and other similar publications of no permanent or literary value, is calculated to preserve valuable literature and at the same time to prevent effectively the spreading of unwholesome literature of all sorts. The office of the Registrar of Books is thus an important one both from a literary and a political standpoint. During the last few years the literary output in Southern India has very considerably increased. To watch its growth and healthy development and to record its progress have naturally meant heavier work and greater responsibility. Consequent on the revision of the Press Act and the modern altered conditions of public life and civil administration, a greater vigilance has been needed in

watching and noting the quality of books and other publications. New rules to meet the new conditions have been passed by Government in recent years, and the establishment for doing this watchful work has been increased. The Registrar issues a quarterly catalogue of books which gives full details, about every book published, in respect of its title, language, author, subject-matter, place of printing, number of pages, size, number of copies printed, price, and particulars about the proprietor of the copyright and so on. To booksellers and commercial men this catalogue may be of much use; but it cannot be of any great interest to the general public. There is really scope enough for the issue by the Registrar of an annual critical memorandum possessing more human interest than his quarterly catalogues.

LITERARY OUTPUT AND ITS ESTIMATE.

The range of his Sanskrit scholarship and his accurate knowledge of the Vedānta and the other schools of Hindu philosophy won for him the appreciation of such a mighty intellect and great personage as the late Swami Vivekananda, who is reported by Prof. Sundarama Aiyar to have found in Mr. Rangacharya the man most near to himself in all that the Swami most valued in life—"an almost encyclopædic learning, a rare command of eloquent expression, the power to call up readily all his vast intellectual resources, to point a moral or prick the bubble of a plausible

argument, an emotional temperament which unerringly pointed to the love of whatever is good and noble in man and beautiful in nature and art." This undoubtedly high estimate of his culture is borne out by the variety and character of his literary output. Besides the *Sarvasiddhanta-sangraha* and the *Ganita-sara-sangraha*, he has edited and published the *Rupavatara*, a valuable elementary treatise on Sanskrit grammar possessing also some historic interest; the *Kavyadarśa* of Dandin dealing with Sanskrit rhetoric; and the *Prayogasangraha* of Vararuchi, which treats of certain selected portions of Sanskrit grammar and syntax. His lecture on the *Meghasandesa* is a critical appreciation of Kalidasa's famous and popular poem of that name with special reference to Sanskrit poetics and the canons of modern literary criticism. *The Yugas* is a rational and historical interpretation of the Hindu conception of four cyclic periods as found in Indian astronomy, in the Vedas and the Puranas. It is a study of Hindu history and chronology, which received the approbation of the late Professor Max Muller. In writing about this essay to Mr. Rangacharya, this celebrated Orientalist and Oxford Professor said—"I am glad to see...that you teach your countrymen to respect themselves, to respect their ancient literature, and to discover what is good and true in their religion." Indeed this tendency of thought, so pointedly drawn attention to in this manner, pervades every one of Professor Rangacharya's lectures and

essays; and no less a critical scholar than the late Sir M. E. Grant Duff saw in this essay and in Mr. Rangacharya's lecture on the *Function of Religion in Social Evolution* 'so valuable and suggestive, a contribution to the discussion of the question how the old thought of the East and the new thought of the West can best be fused into one Wisdom.' His English translation of the *Sri-Bhashya*, the famous commentary of Ramanuja on the *Brahma Sutras*, with a learned analytical introduction established firmly his reputation as an Oriental scholar, and won for him the esteem of Dr. Thibaut, Professor Cowell, Professor Max Muller and other such eminent Orientalists in a notable degree. His *Lectures on the Bhagavadgita* were delivered extempore on behalf of the Sri-Parthasarathi-Swami-Sabha of Triplicane week after week for two years; in them he presents the teachings of Sri-Krishna to modern English-educated Indians in modern form and in the language of modern science and philosophy. The lecture on *Ramanuja and Vaishnavism* is a lucid and masterly description of the growth and development of Srivaishnavism from its early Vedic sources to the days of Ramanuja, showing incidentally how wrong the theory of the Christian origin of the *Bhakti* cult in Hinduism is. All his lectures and essays—which are many more in number than have been mentioned here—are serious productions with a singular devotion to truth and enlightened patriotism; and the latest production from his pen is a valuable and interesting pamph-

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let on *Orthography and Pronunciation in Tamil*, which brings to light his proficiency in modern linguistic studies and his power to apply the principles of philology to problems relating to South Indian languages. Even this very brief survey of his literary output is enough to show the fulness and variety of his culture and the clearness of his all-round vision.

As the first President of the South Indian Association he delivered a learned lecture on *Personal Equation in History*. His *Function of Religion in Social Evolution*, *Indian Loyalty* and the *Yugas* together with this *Personal Equation in History* are valuable studies relating to the method and the purpose of history, although the interest they have in other respects is in fact very considerable. Read together they give a consistent view of what may be spoken of as the purpose of history; and this may be summarised briefly thus:—

The history of the world is on the whole a record of continuous progress through long ages. It reveals the operation of Divine Intelligence in the plan and working of the universe in fuller and ampler forms as the ages have rolled on and on. The progress in civilisation of all the various nations and communities in the world illustrates the great principle of the purposiveness of history, and enables us to see further that the fate of nations and human communities is always and everywhere in the hands of a Power higher than man, howsoever lordly and powerful and

heroic he may be, as judged by his fellow-beings. This kind of divine thought and aim in the working of the universe make themselves manifest in visible form in the life and teaching of all of God's chosen witnesses—the sages, saints, and thinkers, and *avatars* of all ages and lands. To perceive this divine purpose running through history in all its beauty, majesty and glory, one must fearlessly adopt the strict scientific method of investigating truth, whether the subject of enquiry happens to be small or great. In the application of the scientific method to historical and sociological subjects, one must guard against, and make adequate allowance for, errors in the description and interpretation of historic events due to the mental and moral deficiencies and idiosyncrasies of the historical critic and investigator; and may and do also arise from the incorrect as well as incomplete appraisal of the value of the various forces giving occasion to the happening of the various events in history. The application of the comparative and scientific method to the study of history and sociology, and the presentation of these subjects in accordance with the principles of genuine scientific criticism need not, and as a matter of fact do not, give rise to results that are inconsistent with a truly religious interpretation of natural and historical evolution. On the other hand such a study of history and sociology is certain to show quite fully and vividly to all unprejudiced minds in how many ways God has been revealing

His presence to man in His infinite Universe, and also in how many ways man has been seeking Him and finding Him everywhere and at all times. There can be no denying of God by those who study the history of the world's nations thus. The inter-relation between religion and society, or between God and man, when so comprehended, gives a new meaning and a new purposefulness to life and all its great as well as small achievements. The long and continuous history of the Hindus, covering thousands of years, and their well-ordered civilisation, aiming consciously and steadily at the gradual and growing unfoldment of the power of the spirit in the 'life of man' and of human communities, exhibit in a markedly conspicuous manner that both their history and civilisation have always had the beneficent and blissful guidance of the kindly wisdom of the providence of God: and if, what India has achieved during all her historic centuries for the humanising of man and the advancement of civilisation, is carefully and impartially considered, it will be found that she occupies no mean part in the wonderful and divinely designed mosaic of the mighty and majestic history of the world. It is on such faith, so founded and built up, that Professor Rangacharya's joyously optimistic patriotism is seen to rest; and no truly Indian heart can fail to feel its exalted and exhilarating influence.

CONSTITUTIONAL AND NATIONAL VIEWS REGARDING HINDU SOCIAL AND RELIGIOUS REFORM.

Every schoolboy has his own maxim or motto; but he generally beats it so thin in his younger days that it is hardly seen to stick to his life in later years. Exceptions to this rule may, however, be sometimes noticed. In such exceptional cases the motto is generally found to have strength enough to give rise in its owner to a high mind and an exalted life. "Truth Conquers" was Mr. Rangacharya's motto when he was a schoolboy; it was his motto when he became a man; and now, when he has retired from service after full thirty years of strenuous and varied work, it is still his ever living motto. A life, with such a continuous and complete unity of purpose and with such an exalted moral ideal as his, is indeed a dedicated life. Truth in thought, truth in word and truth in action—all these three have the same mental configuration of force behind them. Each, however, has its own naturally imposed limitations and restrictions consequent on the nature of its plane and position of manifestation. Consequently, unless all the factors involved in that mental configuration of force, which is behind the manifestation of a man's life-activities, are duly taken into consideration, it is impossible to judge his life aright. Mistakes in estimating a man's character arise as a matter of course, when this fact of life is forgotten. Such mistakes have more than once

been made by Mr. Rangacharya's critics in relation to certain of his views and actions. We shall not discuss them here, but shall only point out that his critics have not taken note of his uniformly constitutional temperament, which favours systematic obedience to current authority, while not opposing the right to protest openly and emphatically against the operations of that authority whenever they happen to go wrong. According to him, this right to protest is entirely different from the obligation of rebellion; and he holds that this latter obligation cannot naturally or necessarily arise from the existence of the former right. Certain critics have, nevertheless, blamed him, as we have said, for alleged lapses from professed principles. The matter is too personal and controversial for a sketch like this; and yet one cannot resist quoting in this connection a few lines from what he wrote, so early as in 1895, in the first number of the *Brahmavadin*. 'Our title to serve,' he has declared therein, 'is the foundation of our title to sacrifice what is undeniably recognised to be distinctly and entirely our own; but even this noble title of sacrifice does not in the least empower us to betray or in any way endanger the immediate or prospective interests of others, howsoever close their relation to us may be.' Such of his later actions in life, as have been adversely criticised, have to be judged by this rule of social and public conduct which he has propounded with obvious approbation. If so judged, his conduct

in life cannot but be pronounced to be entirely irreproachable. His partiality for this kind of considerate and constitutional spirit, in all endeavours to bring about a betterment of conditions in the Hindu society of to-day, may be gathered from his views regarding more than one social problem. The most vital problem in Indian sociology has always been that of caste. His views on this subject, though opposed to the opinions of the 'advanced' section of Hindu social reformers, are characterised by great sanity and depth of thought. An institution like caste is, according to him the only means, by which in communities and races, differing greatly in culture and capacity for character and civilisation and yet having to live together, unhappy conflicts can be avoided, harmony in social intercourse established, and collective progress on democratic lines secured. The evils in society, which are now generally attributed to caste, are in fact due to various other causes, the chief among which is the long-continued neglect by Hindu society of the function of adjusting the details of its fundamental institutions from time to time to the changing needs of the hour. His opinion really is that all the evils in Hindu society that call for reform now are due largely to this cause. Where social and religious conduct is, as in the case of Hindu society, regulated by sacred scriptural laws, and the legislature, provided by those very laws for bringing about the timely adjustment of legally regulated conduct to the changing needs of the

hour, is almost as inoperative as, if it were defunct, then the best way of securing progress through reform consists in strengthening the legislature that has been weakened through disuse, and in giving to it both new life and new light for the purpose. The method of rebellion in social and religious reform, based as it is on the plea of the courage of conviction, cannot of course appreciate this constitutional process. It may well be mentioned here that it is very curious and yet intelligible enough to observe that those, who are most loudly vociferous and fearlessly emphatic in advocating the method of rebellion in relation to social and religious reform in Hindu society, are themselves on the political platform the most loyal enthusiasts in favour of slow and peaceful constitutional agitation. Professor Rangacharya does not evidently believe in the consistency of honouring authority, where it is strong and effective, and of kicking against it, where it has become weak and disorganised. On the contrary he holds that the spirit of rebellion is dangerously infectious and cannot be easily controlled after it is carelessly evoked. And signs indicating the truth of this view are not altogether wanting in the Indian atmosphere of to-day.

In the history of Hindu society the Pandits have been the long recognised custodians of social and religious authority. The Pandit is and has always been an integral part of the Hindu social polity. He, as the custodian of Sanskrit learning and Hindu *Dharma*, is the

recognised interpreter of Hindu social and religious laws and the organiser of Hindu social and religious institutions with reference to the conditions prevailing in each age in Indian history. Ignorance on his part in respect of his own high privilege as social and religious legislator, and also in respect of the modern conditions of life in India, unfits him for the exercise of the law-making-power which inheres, according to the sacred law of the Hindus, in the *Parishad* or Assembly of Pandits. The resuscitation of the Pandit in our social polity, and the restoration to him of his legislative power in social and religious matters, can alone give the needed elasticity to the Hindu code of social and religious laws. This purpose very rightly demands the proper education and training of the Pandit as the first step in all schemes of constructive social and religious reform. It will not do to ignore him, for, even when he is inefficient, he continues to exercise his traditional authority and regulative function in society. If left to himself, he does it in an extremely conservative and inelastic way, owing to his ignorance of the many inevitable changes that have significantly affected Hindu society, and owing also to his being non-cognisant of many of the elementary facts of modern history, geography and science. The powerful plea that Mr. Rangacharya put forth for the "Modernisation of the Pandit" at a meeting in Mylapore, over which the late Mr. V. Krishnaswami Aiyar presided, led him to take steps for the generous and

patriotic establishment of the Sanskrit College in Mylapore. When, a little over two years ago, Mr. Rangacharya presided over the Conference of Pandits held at Conjeeveram, his idea of reviving the legislative power of the Pandit found full expression in the calm and thoughtful Sanskrit address, which he delivered to that Conference as its President. It is an address of great importance from the standpoint of Hindu social reform on national lines, and deserves to be taken note of as a document of much real value. As the Chairman of the Committee, appointed by the Director of Public Instruction to draft rules and regulations for the guidance and encouragement of Sanskrit education in the Madras Presidency, Mr. Rangacharya has had an opportunity to see that the methods adopted in the training and education of the Pandit are such as will tend to make him an effectively helpful factor in the development of social and moral progress among the Hindus; and it may well be hoped that this work of his will bear ample fruit in due time. Except in this constitutional way, no constructive social reform, which is truly consistent with our past culture and civilisation, is at all possible; and those that do not agree with Mr. Rangacharya in this matter have surely no right to blame him for his opinions and actions.

HIS CULTURED REFINEMENT.

The most striking feature of Professor Rangacharya's life has been his luminous culture. Highly sensitive, yet gentle by nature, he was fortunately able to receive

an all round education that clearly laid down for him the lines along which his natural courtesy should flow without making him seem weak owing to that courtesy. He is a pleasant master to serve under, and his subordinates have a kind of respectful personal attachment to him. Every sort of moral delinquency in the conduct of his subordinates, he is stern and severe in putting down. Nevertheless, they know that his heart is full of the milk of human kindness, and that to sympathise with all those who need sympathy is a spontaneous characteristic of his nature. Young men, who go to him for help or advice, always feel free from that peculiar sense of oppressiveness, which is often experienced in the presence of certain persons of high station and intellectual eminence. He has no brusqueness of manner, and shows no indecent haste to wish visitors off. His desire to encourage, guide and help young literary aspirants has cost him much time and labour, which he is known to have always freely and ungrudgingly given. It may not be widely known how freely and continuously he helped Pandit Mahamahopadhyaya Swaminatha Aiyar patiently for many months in connection with his edition of the famous ancient Tamil classic *Manimekalai*, by giving him in particular all the varied information regarding Buddha and Buddhism that was found necessary to understand, interpret and annotate that work. Such tax on his time and energy has often been seen to be so heavy that a friend of his once remarked that he feared whether his

family and relations could ever get the benefit of his company and conversation at all. He finds it difficult even now, in spite of his poor health and strict medical advice to the contrary, to decline seeing visitors or rendering help to writers and authors. Recently he has been engaged for many weeks in giving very valuable help to an old pupil and young friend of his in connection with an interesting and valuable work on Hindu Iconography. Heavy reading and hard thinking seem to act as soothing comforters on his nerves; and yet his criticism of weak and ill-equipped opponents is always marked by urbanity and charity so that it leaves no personal sting of any kind behind. Owing to his calm culture and impersonal attitude in criticism, he has been able to exercise considerable influence in relation to the deliberations of the Senate of the University of Madras, and in Committees and Conferences of more than one kind.

A FEW INFORMING INCIDENTS.

On one occasion the late Yogi Parthasarathy Aiyangar, an orthodox and highly respected member of his community, and a great scholar and learned lawyer of highly conservative views, was reading at a public meeting a paper condemning "Female Education." The audience grew restless and appeared to attempt to stop rudely his proceeding with the reading of the paper. Mr. Rangacharya, who had strong differences of opinion with the Yogi on many social and religious problems, got up at once

and spoke with some warmth in a courageous and chastising tone to the audience and succeeded in bringing them into the proper mood to give the Yogi a complete and attentive hearing. Mr. Rangacharya does not, as so many are apt to do, carry into social intercourse and public life his personal differences. Moreover, straightforwardness and independence are virtues which carry with them their own penalties in public service as well as in social life; and Mr. Rangacharya has not been able to escape those penalties. Success, as it is understood in this age of mad scramble for money, appointments and titles, he has not had in the measure that those, who know his high intellectual and moral worth, would understand to be his due: and in spite of the really valuable work he has done in more than one way for the good of Hindu society, he is nowhere lionised in that society. A keen sense of self-dedication in a moral idealist invariably acts as a drawback to material success and easy popularity. And Mr. Rangacharya is undeniably such an idealist with such a moral sense.

When the late Dewan Bahadur S. Srinivasaraghava Aiyangar, C.I.E., had once gone on tour to Rajahmundry as Registrar-General of Assurances, Mr. Rangacharya called on him naturally and sought his honoured acquaintance. Both of them were brought together in this manner for a few days and had opportunities of exchanging thoughts and views in more than one course of cultured conversation. Then the Dewan Bahadur

said one day to Mr. Rangacharya in the presence of one or two of his college colleagues and a few other friends—"I am afraid you have wrongly chosen your profession. You should have become a lawyer. As it is, it is only the profession of law that can give adequate scope for the full utilisation of all your varied abilities." This remark of the Registrar-General was conveyed the next day by one of Mr. Rangacharya's colleagues to Mr. E. P. Metcalfe, the Principal of the local college; and he at once said that he fully agreed with that opinion and considered that the Government Education Department, as then constituted, could not offer enough scope for a man of Mr. Rangacharya's scholarship and abilities. Mr. Rangacharya, however had already judged the profession of law, not from the standpoint of the success he might achieve and the wealth he might acquire therein but from the idealistic standpoint of the scope it gave for ready helpfulness and extensive humanitarian service.

Mr. Rangacharya's light of culture may be most markedly observed in his generous spirit of religious toleration. It is well known that he is an ardent believer in Hinduism and its teachings; and it has therefore been a puzzle to some of his most intimate friends that his reverence for Christ and admiration for Christ's religion of humanity and love are most sincere and of a very high order. This is probably due to much of his English education having been received in institutions maintained by

Christian missionaries and at the hands of earnest and distinguished missionary masters. As an enlightened student of the Hindu religion and a firm believer in its doctrines, he maintains that religious toleration is a duty obligatorily imposed upon every true Hindu; and his respect for the great Islamic prophet and his religion is also of a high order. Nevertheless, it has to be said that he is no advocate of the methods of religious propagandism adopted by the followers of Christianity and Islam and does not believe at all in the ethics of such propagandism as works conversion through social rupture and separation. This conciliatory temperament, combined with his deep personal convictions in religious matters, has naturally given a unique value to his utterances connected with religious problems and institutions. When, as a distinguished 'old boy' of the Madras Christian College, he was called upon to preside over one of the annual College Day gatherings, he delivered a notable speech which prominently brought out all these characteristics; and soon after Dr. Miller had been elected and had served as Moderator of the Free Church Assembly in Scotland, his students proposed to him in Madras that they should be allowed at their College Day meeting to thank the Assembly for the great honour they had done to him. As the matter was delicate and required careful and dignified handling, Mr. Rangacharya was, with the approval of Dr. Miller, selected to speak then on the subject. His speech on the occasion was

as usual apt in its contents, elevated in tone, urbane in manner and sincere in its expression of the feelings of Dr. Miller's numerous students and admirers; and it is no wonder that it was received with almost universal approbation at the time. A little more than twenty years ago, Mr. A. Monro was for a short period acting as Director of Public Instruction in Madras. He was an Oxford graduate noted among the then Madras educational officers for his scholarship and literary attainments. He was a descendant of that doctor who gave his name to *Foramen Monro* in human anatomy, and was during a part of the period of his stay at Oxford a young friend of the poet Clough. At the time he paid his official visit to the Kumbakonam College, Mr. Rangacharya happened to be a Lecturer therein. When, after going round the College, he was taking leave of the members of the staff one by one, he remarked to Mr. Rangacharya (who had put in just about ten years of service then) when his turn came "I am glad to have had an opportunity of meeting a scholar like you here." Owing to the unexpected suddenness with which this remark came, Mr. Rangacharya felt abashed, although he had received a little before that date a letter from the late Mr. H. B. Grigg, who, after having rendered distinguished service as Director of Public Instruction, had become British Resident in Travancore and Cochin, stating—"I have written to Mr. Monro regarding you and have told him how high my opinion is of you as a scholar, a

scientist, and an educator." As soon as Mr. Rangacharya recovered from the momentary shock, he naturally protested that he was not much of a scholar and thanked Mr. Monro for the high compliment he had paid him. Mr. Monro replied—"I know that you *are* a scholar. You are not aware that I have carefully read your lecture on the *Function of Religion in Social Evolution*." This caused even greater surprise to Mr. Rangacharya, and he desired to know how that lecture came to have the good luck to be read by him; and Mr. Monro said—"Mr. Metcalfe put it into my hands at Rajahmundry, and I read it with delight on board the steamer which took me from Cocanada to Madras." Mr. Rangacharya's scholarship is now fuller, riper and sweeter, and is being as ever used in the sacred cause of the service of his motherland and the justification and advancement of her civilisation.

Mr. Rangacharya takes life in a serious, almost solemn, spirit. Even when he was a student this seriousness was a marked trait in his character. He took, even then, next to no interest in amusements, or sports, or games. This naturally led to neglect of physical exercise on his part, which is perhaps responsible to some extent for his weak health in later life. His ideal of duty has been consequently high and serious. Any position of trust and responsibility, he values only in proportion to the opportunities it affords him to serve his country. He was appointed to serve on the Tamil Lexicon Committee as the representative of Govern-

ment, and did his work as a member thereof with singular devotion and serious earnestness for about a year. When, however, he learnt that well-known principles of linguistics and lexicographic thoroughness and accuracy were all apt to be sacrificed there in deference to personal influence and individual idiosyncrasies, and found that it was not easy for him to mend matters, he resigned his membership in obedience to the dictates of his conscience. He, however, tendered his resignation unavoidably and with much regret, as he felt keenly that he was being compelled to sacrifice thereby the serviceability of his well suited scholarship in a field of highly useful literary labour and public work. In a conflict between conscientiousness and easy indifference, the former alone is, in his case, destined to succeed.

WORK AS EDUCATOR.

His command of the English language is remarkable; his reading and scholarship wide and extensive, embracing, as pointed out already, several departments of knowledge. This has been testified to in highly appreciative terms by Mr. E. P. Metcalfe, who was for many years the devoted, and distinguished Principal of the Rajahmundry College, wherein Mr. Rangacharya did duty off and on for several years. So early as in 1890, Mr. Metcalfe wrote about him thus:—"Mr. Rangacharya is one of the very few in this Presidency who have proceeded to the degree of Master of Arts in

Physical Science, the very fact of which stamps him as a gentleman of very superior attainments in that particular branch of knowledge, especially when corroborated by the excellent results of his teaching as exhibited by the uniform success of his pupils at the University examinations, some of whom have taken very high places: but apart from his professional attainments, I would also testify to his proficiency in the knowledge and use of the English language, which he speaks fluently and idiomatically—to his large fund of information on all matters of general interest, to his polished manners and thorough straightforwardness." Seven years later, Mr. E. W. Middlemast, who is now the Principal of the Presidency College and was then the Principal of the Rajahmundry College, gave his estimate of Mr. Rangacharya in the following words:—"Mr. M. Rangacharya served under me for over a year as a Lecturer in the Government College, Kumbakonam. During that time I formed a high opinion of his merits as a scholar and a teacher. Besides being a Master of Arts in his special subject, Physical Science, he has an extensive and accurate knowledge of many other branches of study, and in particular is an excellent English scholar. As a teacher, Mr. M. Rangacharya possesses to a noticeable degree the faculty of engaging the interest of his students and commanding their respect." It is noteworthy to observe that these two estimates of Mr. Rangacharya's worthiness, scholarship, and abilities as

an educator agree in almost every detail; and this close agreement, we need not say, has a force and a meaning of its own, which it is not easy to miss.

As an educator Mr. Rangacharya has had opportunities of doing work in all the three First-Grade Colleges maintained by the Government of Madras; and for a short time he also worked as Professor of Chemistry in the Maharaja's College at Trivandrum. It is known that for just over thirteen years, out of his service of above thirty years, he has done work as Professor of Sanskrit and Comparative Philology in the Presidency College. During the major part of the remaining portion of his service he was engaged at Rajahmundry and Kumbakonam in the teaching of Physical Science, having also had opportunities therein to act as Professor of Chemistry and Professor of Physics in the Presidency College for short periods. Owing to the exigencies of the Department, and owing also to the notable fitness possessed by him, he used to be called upon from time to time to teach other subjects, such as English, History, Physiology, Philology and Anthropology, often in addition to his own special subjects. Enough evidence has already been adduced to show that all this varied work was done by him with admirable success in all the institutions, wherein he has had to serve. From that same evidence it may be gathered that his aim as an educator has been much higher than merely to pour information into the minds of his students, so as to

enable them to pass their various University examinations. It is borne witness to by a large body of his old pupils that his teaching has always had in view the higher and larger object of rousing in them an earnest and sincere enthusiasm in behalf of culture and character and also of making them show a real admiration for all high ideals of life and thought. His classes have been famous for many years for the flow of feeling and the feast of reason which could be so abundantly enjoyed in them; and his mellifluous language uttered in telling periods uniformly gave to those classes an additional charm. It may accordingly be seen that he has been an educator in the highest and the most comprehensive sense of the term; and the success he has achieved as such an educator has deservedly attracted attention and received wide and generous approbation.

EDUCATIVE WORK OUTSIDE COLLEGE CLASSES.

What is even more remarkable than his success as Lecturer and Professor in his college classes is the readiness with which he has been silently and unostentatiously putting his rare powers of thought and speech and writing to public use, so as to be an educator over a much larger area than his class-rooms, with no thought of receiving in return for such work any reward or recompense. The most important and arduous work of that kind, which he has done, is the course of lectures that he delivered week

after week for two years to large public audiences on the *Bhagavadgītā* on behalf of the Sri-Parthasarathi Swami Sabha in Triplicane. These lectures are being printed to be issued in book-form; and it is regrettable that the printing has been so slow in progressing. As a writer also he has done much valuable work to serve the public cause freely. When the *Brahmavadin*, a religious and philosophical journal, was started about twenty years ago in obedience to the wishes of the late Swami Vivekananda, the brunt of the editorial work fell on Mr. Rangacharya, and the very name *Brahmavadin* is what he gave to it. He chose for it its motto, settled its policy and wrote for it incessantly; and it is no wonder that at the very start the *Brahmavadin* came to occupy the first rank in journalism. Its treatment and exposition of the religion and philosophy of the Vedānta was at once clear and scholarly; and its style was chaste, elevated and powerful. He has never encouraged mystery-mongering in any of his religious writings. It is the knowledge of the Supreme Brahman which he has, in accordance with the teachings of many great Hindu sages, taken to be the highest aim and goal of human speculative thought; and the nature and elements this knowledge he has expounded in terms of modern science and philosophy in the columns of this journal in an admirable manner and in many of its bearings. His estimate of the value of religion as a social force is worth quoting. 'While it is the aim of science, poetry

and philosophy,' he wrote in one of the issues of the *Brahmavadin* in 1895, 'to indicate the outline of the growing ideals of human life, it is religion which enables man to take hold of those ideals firmly, and convert them all into a practical working force in society.' He holds that, since human social life on earth is getting more and more complex, religion alone can bring about a progressively harmonious and equitable adjustment of the relations between man and man in society and civilisation. To preach Vedanta is, according to him, to preach the need for self-improvement and social reform. Very soon after the journal was started, the *Brahmavadin* received the approbation of Professor Max Muller and also of the many cultured friends and followers of Swami Vivekananda in America. For nearly five years or so, Mr. Rangacharya was its *de facto* editor; and all the early issues of the *Brahmavadin* may well be seen to be capable of abundantly repaying perusal even to-day. In fact, when it was proposed at one time to issue certain selections from the *Brahmavadin* in book form under the name of *Brahmavadin Essays*, Professor Max Muller was kind enough to send an appreciative introduction to the proposed publication. Somehow the project fell through; and Professor Max Muller's introduction alone was curiously enough published in one of the later volumes of the journal. The old project is fully worthy of revival and deserves to be carried out even now after so many years.

HIS HINDU SIMPLICITY.

Mr. Rangacharya must have a clear grasp of English manners and habits of life. Otherwise, it is difficult to see how he could have taught to Indian students more than one work of a peculiarly English ring in English literature, so as to make all their contents real and living to them, as so many of those students even now remember with pleasure and pride. Although he has understood English life so well and assimilated English thought so thoroughly, it is edifying to note that he manages to be wholly Indian in his domestic habits without allowing any trace of the influences of the West to touch him in his home-life. His Indian culture being no less deep than his English culture, and his patriotism being genuine, far-seeing and discerning, he does not believe that true progress can in any matter be achieved through hasty imitation and heedless adoption of alien modes in dressing and living. In such imitation he sees a want of self-respect and an incapacity to understand the natural origin and adjustment of human modes of dress and life in relation to the varying environments of the various human communities in the various parts of the world. His example in this matter is not unique, as there are many other worthy Hindus, who have not, in spite of their English culture, adopted European modes of dress and life; and yet Mr. Rangacharya's simplicity in his home-life and manner of dress arrests attention and deserves to be pondered

over with some care by all those, to whom modern refinement consists in the ready imitation of European externalities. True refinement always rests on true culture, and is related to the head and heart very much more intimately than to dress and food; and in respect of the refinement, which is of the head and heart, Mr. Rangacharya can in no sense be said to be lacking in it. Plain living is nowhere incompatible with high thinking.

PRESCIENCE AND POWER OF SPEECH.

His reputation as a public speaker and lecturer is high. Standing on the platform, he develops arguments as he speaks. His sentences are not short. They are not darted at his hearers like random arrows; but they come sweeping down in regular sequence in long and involved periods, clearly delivered in a voice that reflects his perspicuous sincerity, deep feeling and intense thought. He is one of the very few speakers in South India, who can, without notes of any kind, speak on any philosophical, literary or religious subject for two hours at a stretch, and keep the audience spell-bound all the time. Many are the speeches and lectures that he has delivered; and all his utterances are received with great respect and attention. His lecture on "Indian Loyalty," delivered by him on behalf of the Madras University Union on 27th October 1897, was a noble performance in public speaking. It occupied more than two hours, and was throughout extempore. It was a

manly and vigorous defence of his countrymen against the rather common and careless charge of disloyalty, which used to be freely hurled at them by Anglo-India in those days,—a dangerous and delicate subject for a Government servant to speak on in any circumstance without the aid of previously prepared notes. Sir Ralph Benson, who had not been knighted but was even then a Judge of the Madras High Court, occupied the presidential chair. Indeed it was not without some difficulty that he had been persuaded to preside at the meeting; and he betrayed by his anxious look throughout that he was afraid that the lecturer might trip and let himself into uttering indiscreet remarks calculated to make the situation unpleasant to both of them. But Sir Ralph was happily disappointed; and his approval of the lecture was almost entirely unreserved, as he made it evident in his concluding remarks regarding its merit and value. The principles on which Mr. Rangacharya based his contention, that the loyalty of the people of India to the Throne was natural, inborn and unswerving, could never lead him to make unsuitable or indiscreet statements. It is only the insightless lack of appreciation in relation to Indian character that generally gives rise to apprehensions concerning Indian loyalty. To those, who know well the long-established historical and religious foundation of loyalty in Indian character, the English people's wonder at the splendid manifestation of that worthy feeling by the Indian people to-day, when England is

at war] with Germany, is certain to appear very strange and unaccountable. Disloyalty is a state of mind which is incompatible with the inner grain of Indian character and the whole trend of Indian thought and Indian history. That is the essence of this noted lecture on *Indian Loyalty*. Quoting a statement of Lord Roberts, made to an Indian soldier on a notable occasion, Mr. Rangacharya appealed in it in the end in stirring terms to both Englishmen and Indians to move together as comrades in all their relations in life. Has not this desire, so fervently felt and patriotically prayed for, come near enough to realisation to-day after seventeen years? Genuine comradeship between the equal subjects—the British and the Indian subjects—of the King-Emperor, based on mutual conciliation and co-ordination, is demanded quite as much for maintaining and improving the strength of the empire as for helping on the progress of India; and it is encouraging to see that the chances of this fact being recognised in places of authority and effective initiative are much more favourable to-day than when Professor Rangacharya pleaded so earnestly and eloquently for such comradeship to be brought to bear upon the life of India and the British Empire.

EVIDENCE BEFORE THE ROYAL COMMISSION ON THE PUBLIC SERVICE IN INDIA.

When Mr. Rangacharya took to educational work, it became to him a holy calling; and he has spent full thirty years

of his life in that calling of the educationist. He has loved the work, devoted to it abilities and attainments, which could have brought to him celebrated success in more than one other profession or walk of life. His idealistic temperament has brilliantly coloured and illuminated for him his work as an educator. It is not for small and immediate results that he mainly laboured; in education he has uniformly seen the power that has to make the destiny of India glorious, beautiful and divine, and has endeavoured on all available occasions to instil into the minds of his pupils much of his own noble enthusiasm and glowing patriotism. When, for instance, it became known that he was to give evidence before the Royal Commission on the Public Services in India as the representative of the collegiate section of the Provincial Educational Service in Madras, it came to be generally expected that his well-known enthusiasm and patriotism would find their full expression in his evidence, and that that evidence would be just and brave and telling. Indeed so it was; and to many that were present, when he gave his evidence, it must have been a source of considerable delight to see that, at the conclusion of his evidence, he was congratulated by more than one European member serving on that Royal Commission. In his written Memorandum presented to the Commission, he used, as it has been usual with him for years, that the spirit of comradeship should prevail between the British and the

Indians in every department of the administration of the State, that colour should carry no privilege or disability with it, and that this assurance of equality is especially necessary in the Department of Education. "Culture and character," he said in his Memorandum to the Royal Commission, "are quite international in their nature, and it is possible for a good Indian possessing the required qualifications to be as good an educator as a good European with the same qualifications." Then, after pointing out that the old partiality in favour of Europeans is no longer justifiable, but is very undesirable from moral as well as political considerations, he meaningfully declared:—"In the matter of modern Indian education, it is no more injurious to ignore that it is Europe which is educating India than to forget that it is India which is being educated by Europe." In another place in the same Memorandum he has openly said "that the educational salvation of India lies more in the hands of the Indians themselves than in those of British workers in the field of Indian education." These strongly expressed views of his are in full keeping with enlightened Indian opinion in all parts of the country, and are such as deserve serious attention and careful consideration.

CONCLUSION.

A tall, majestic figure, a broad chest and well built shoulders without any sign of athleticism, a massive head and expansive forehead so peculiar to his

community, a high and somewhat aquiline nose, eyes that while speaking seem to be directed to some distant object of mental vision, well-set lips indicating firmness of purpose, staid and dignified manner in walking, a plain silk long coat in summer and homespun in other seasons, and a well-tied white turban—these are the elements in the picture of the man whose life and work have been passed in rapid review in the foregoing paragraphs. He lives in a house built after a plan of his own. There is in it no separate drawing-room. His study and drawing-room are the same, and rarely do any social callers disturb him or his work with small talk of any kind. His visitors see him almost always on serious business generally connected with educational, religious or literary matters of interest and importance. Being specially a man of thought more than of action, he is very reserved in his general demeanour; and there are not a few who have mistaken this thought-abstracted reserve of his to be a kind of consciously maintained aloofness resting on a sense of self-importance. He is certainly slow to make friends, and not at all alert in cultivating acquaintances; but his friendships, few though they may be, are fast, sincere and enduring. Being largely a self-made man, he knows well the nature of the struggle which is involved in rising in life from poverty to competence; and his heart is always full of outflowing sympathy and expanding love towards those who are poor and in needy circumstances. Consciously courted aloofness

in life is apt to dry up the charity of the heart: and who, that has had anything like a true glimpse into his heart and has known the subdued streams of warm emotion proceeding therefrom, can say that his heart is dry? He may very appropriately be taken to be a typical English-educated Hindu of the closing period of the 19th century in Southern India. Highly intellectual and versatile in thought, fearless in the expression of his views, intensely national in his social and religious opinions and ideals, he has lived a life of great personal purity and transparent truthfulness. These well-known virtues of his life have made him a man, who is admired, revered and loved by all those that have come into any kind of close contact with his mind and life; and such persons are in fact not a few. When asked the other day if he could give any particulars for a small sketch of his life, he said with an evident feeling of regret—"My life has

been an uneventful one. What have I to tell you?" The regret obviously arose out of an unexpressed and possibly inexpressible feeling that his health was not equal to the completion of all his contemplated work for the good of his country. But we can, without exaggeration and without partiality, assure him that what he has already done in life is no small achievement. When the news of his retirement reached Sir John Atkinson, K. C. S. I., the recently retired Senior Member of the Council of Fort St. George, Sir John wrote to him—"You will be much missed. You have done much admirable work for the Government and the country." Indeed he has done much admirable work for the Government and the country; and it is hoped that this sketch will show that, more than even that, he has lived an admirable life of exemplary value as scholar, scientist and educator.

P. SUBBA ROW.

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THE MODERN THEORY OF RATIONAL AND IRRATIONAL NUMBERS.

(Continued from page 609).

Following the historical order of introduction, I shall first deal with 'fractional numbers' and then with 'negative numbers.'

Fractional Numbers.

Historical Introduction.—Historically the use of fractions arose out of the necessities of the process of measurement of extensive magnitude and it is this conception of a fraction that is in daily use and that, I believe, must be conveyed to the young boys of our Elementary Schools. In accordance with this view, the fraction a/b means that a unit of magnitude of some kind is broken into b parts and a of these parts are taken.

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This notion of a fraction is incompatible with the modern view that mathematical analysis should be based on Pure Arithmetic freed from all notions derived from the idea of extensive magnitude and its measurement, the same being considered foreign to pure arithmetic. Further the nature of the abstract continuum and that of limits, so essential for the elucidation of the abstract theory of continuous magnitude, are considered capable of exact formulation only in the language of a pure arithmetic. Consequently modern mathematicians have abandoned the non-arithmetical definition of a fraction and substituted in its place a definition in which a fraction is considered as an association of a pair of integers, the pair being regarded as a single 'number.' We may denote the system of such numbers by F.

N.B.—The association of a pair of integers is a 'number' in quite a different sense from that in which natural integral numbers are 'numbers.'

Definition and Properties.—In the number system F, every number is a pair of the numbers of the system I; [We shall use α, β , etc., to denote the numbers of the system F and a, b , etc., for those of the system I say, $\alpha \equiv (a, a^1)$; $\beta \equiv (b, b^1)$] and the system F consists of the totality of such pairs. [The customary symbol for a fraction is purposely avoided so that our attention may be more closely fixed on the logical processes involved]. The elements of F are as yet assigned no properties. We shall assign them one after another taking

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care that the system F includes the system I and that no property shall contradict the preceding ones nor be inconsistent with the properties of integral numbers.

1. To fix the relation of the system F to the system I, we say that (a, a') shall be a number in I when a is a multiple of a' ; i.e., if $a = a'c$, then (a, a') of F shall be the number c in I. In particular $(a, 1)$ is the number a in I. Thus every number in I is a number in F.

Of course the conception a of 1 is not the same as the conception of the pair $(a, 1)$ of F. But for all arithmetical purposes they may be regarded as alike.

2. To arrange the system F in an order, we define that, if $\alpha \equiv (a, a')$, $\beta \equiv (b, b')$,

α is $>$, $=$ or $<$ β according as ab' is $>$, $=$ or $<$ $a'b$. Note that, to decide the equality or inequality of two numbers in F, the operations required are on the numbers of I.

That this definition effects an arrangement of the system F in an order will be clear if we prove that, if $\alpha > \beta$ and $\beta > \gamma$, then $\alpha > \gamma$.

Proof:—Let α, β, γ be respectively (a, a') , (b, b') , (c, c')

if $\alpha > \beta$, we have $ab' > a'b$

and $\beta > \gamma$, we have $bc' > b'c$

Multiplying $ab'bc' > a'bb'c$

Dividing by bb' , $ac' > a'c$

i.e., $(a, a') > (c, c')$ or $\alpha > \gamma$.

Cor. 1. The two numbers (ma, ma') , and (a, a') are equal for $maa' = ma'a$. That is, we can multiply the two constituents of a number by any the same integer m without changing its value.

Having assigned two properties to the numbers of F, let us see if they, in any way, contradict the known properties of the numbers of I which we have seen forms a part of F.

Take two numbers a, b of I and consider them as pairs or numbers in F; there they appear as $\alpha \equiv (aa', a')$, $\beta \equiv (bb', b')$.

Now according to our definition

$\alpha >$, $=$, or $<$ β according as $aa'b' >$, $=$ or $<$ $a'bb'$ dividing by $a'b'$, according $a >$, $=$ or $<$ b .

This shows that the ordering of the system F is consistent with the order of the system I.

Next we define the four operations on the numbers of F.

Addition and Multiplication.—If $\alpha = (a, a')$, $\beta \equiv (b, b')$ be two numbers of F we define addition by the equation $\alpha + \beta = (ab' + a'b, a'b')$ and multiplication by the equation $\alpha\beta = (ab, a'b')$. Let us see if these are consistent with the known properties of integers.

(a) Let α and β lie in I; say, $\alpha = (aa', a') = a$, $\beta = (bb', b') = b$ and let us see if $\alpha + \beta$ and $\alpha\beta$ as defined above gives $a + b$ and ab respectively. $\alpha + \beta = (aa'b' + a'bb', a'b') = (a + b, 1) = a + b$. $\alpha\beta = (aa'tb', a'b') = (ab, 1) = ab$.

We can also prove the following easily:

(1) If $\beta > \gamma$, then $\alpha + \beta > \alpha + \gamma$.

(2) If $\alpha + \beta = \alpha + \gamma$, then $\beta = \gamma$.

(3) If $\alpha\gamma = \beta\gamma$, then $\alpha = \beta$.

We can also show that the associative, commutative, &c. laws of addition and multiplication hold

(b) To show that $\alpha(\beta + \gamma) = \mu\beta + \alpha\gamma$.

As before let α, β, γ be respectively (a, a') , (b, b') , (c, c')

then $\beta + \gamma = (bc' + b'c, b'c')$

and $\alpha(\beta + \gamma) = (a(bc' + b'c), a'b'c')$

$= (abc' + ab'c, a'b'c')$

also $\alpha\beta = (ab, a'b')$

$\alpha\gamma = (ac, a'c')$

and $\alpha\beta + \alpha\gamma = (aba'c' + a'b'ac, a'b'c'a')$

$= (abc' + ab'c, a'b'c')$ [Cor. 1].

$\therefore \alpha(\beta + \gamma) = \alpha\beta + \alpha\gamma$.

We next pass on to the operations of division and subtraction.

Division.—We define the quotient of α by β to be the element or elements ξ , if any exist, of F which satisfy the relation $\alpha = \beta \cdot \xi$, (1)

Put $\xi \equiv (x, x')$ where x and x' are the unknowns; since ξ must satisfy (1), we have

$$(a, a') = (b, b') (x, x') = (bx, b'x')$$

$$\therefore ab'x' = a'bx \dots \dots (2)$$

which x and x' must satisfy

$$x = ab', x' = a'b \text{ is evidently a solution.}$$

That is, $\xi = (ab', a'b)$ is a solution.

This is the only solution; for, if μ be a solution of (1), we have, $\alpha = \beta \mu$

$$\text{but } \alpha = \beta \xi. \therefore \xi = \mu. \text{ by (3)}$$

Thus division is always possible and is unique.

Every number in F may be regarded as the quotient of two numbers in I

For, $\alpha \equiv (a, a')$ a number in F is the quotient of $(a, 1)$ and $(a', 1)$ according to the above definition of quotient; but $(a, 1)$, $(a', 1)$ are the numbers a, a' of I. The quotient of a by a' is generally denoted by a/a' .

Thus the 'number' system has been extended so that division may always be possible. As we have stated above, the association of a pair of integers is a 'number' in quite a different sense from that in which natural integral numbers are 'numbers.' The justification of the extension of the term 'number' to such pairs lies in the fact that a consistent scheme of operations can be imposed upon them of which the laws are in agreement with those which hold for operations on integers only. So then, it must be clearly borne in mind that though this extension of the number system is often spoken of as 'a generalization of number,' it is not the conception of number that is generalised but merely the application of the name 'number' in virtue of a great, close and important analogy.

Subtraction.—We define the result of subtracting β from α to be the element or elements ξ in F which satisfy the relation $\alpha = \beta + \xi$, (1). Since $\beta + \xi > \beta$, if β and ξ are numbers in F, a solution of (1) is possible only if $\alpha > \beta$. And if $\alpha > \beta$, i.e., if $ab' > a'b$ we can easily show

that $\xi = (ab' - a'b, a'b')$ is a solution and is the only solution.

Negative Numbers.

Introduction.—We have seen that subtraction is not always possible in the system F; and in order to make subtraction also possible in all cases we create a new number system called R. We denote the numbers of F by a, b, c , &c., and those of R by α, β, γ , &c.

As in the creation of the system F, we now take the elements of F in pairs to form the new numbers R. We denote a pair by (a, a') and the totality of all such pairs forms the system R. We next proceed to assign properties to the numbers of R.

1. To place R in relation to F, we say that $\alpha \equiv (a, a')$ shall be a number in F if $a > a'$; and that number shall be $a - a'$ which obviously lies in F. Thus every number in F lies in R. For, if a be a number in F and k another number in F, then $(a + k, k)$ in R is the number $a + k - k = a$ in F. In short, a of F is $(a + k, k)$ in R where k is any number in F.

2. We next order the system R by defining that (a, a') is $>$, $=$ or $<$ (b, b') according as $a + b'$ is $>$, $=$ or $<$ $a' + b$. We can easily show that this arranges the system R in an order consistent with the order of the system F which we have seen is a part of R.

Cor. 1. $(a, a') = (a + k, a' + k)$, i.e., we can add the same number k to both the constituents of a number without changing its value. Also $(a, a') = (a - k, a' - k)$, if a and a' are both $> k$.

Cor. 2. Also $(a, a') = (b, b)$, i.e., all numbers whose constituents are the same are equal. We shall call them zero denoted by '0.'

Also if $\alpha \equiv (a, a')$ and $a > a'$

then $\alpha > (a, a)$, i.e., $\alpha > 0$.

Similarly if $a < a'$, then $\alpha < 0$.

The numbers in R greater than zero may be called positive numbers and those less than zero,

negative numbers. Zero is neither $+$ nor $-$. Thus the $+$ numbers of R are the numbers in F . Zero and $-$ numbers are not in F .

3. We define addition by the relation

$$\alpha + \beta = (a, a^1) + (b, b^1) = (a + b, a^1 + b^1)$$

Multiplication by $\alpha\beta = (a, a^1) \times (b, b^1)$

$$= (ab + a^1b^1, a^1b + ab^1).$$

It is easy to prove the associative, and commutative laws.

4. Subtraction.—We define the result of subtracting β from α to be the element or elements ξ in R which satisfy the relation

$$\alpha = \beta + \xi$$

we see that if $\alpha = (a, a^1)$, $\beta = (b, b^1)$, $\xi = (x, x^1)$ then $(a, a^1) = (b, b^1) + (x, x^1) = (b + x, b^1 + x^1)$.

$$\therefore a + b^1 + x^1 = a^1 + b + x$$

or $x = a + b^1$, $x^1 = a^1 + b$ is a solution

i.e., $\xi = (a + b^1, a^1 + b)$ is a solution and is the only solution. Thus subtraction is always possible in R .

The result of subtracting β from α is generally denoted by $\alpha - \beta$. Then any number $\alpha = (a, a^1)$ in R may be regarded as the result of subtracting a^1 from a , i.e., $\alpha = a - a^1$.

$$\text{For, } c = (a + k, k), a^1 = (a^1 + k^1, k^1)$$

$$\alpha - a^1 = (a + k, k) - (a^1 + k^1, k^1)$$

$$= (a + k + k^1, a^1 + k + k^1) = (a, a^1) \text{ [Cor. 1].}$$

Again let $\alpha = (a, a^1)$ be a number of R , then $(a, a^1) + (a^1, a) = (a + a^1, a^1 + a) = 0$.

$$\therefore (a^1, a) = 0 - (a, a^1).$$

The right hand side may be written, $-(a, a^1)$ = $-a$.

i.e., $-a$ is the number ξ such that $a + \xi = 0$.

Also we have $\alpha = (a, a^1) = -(a^1, a) = -(-a)$.

Also if $a > a^1$, $\alpha = (a, a^1)$ is a number in F and (a^1, a) which is a negative number and not a number in F will be written as $-(a, a^1) = -\alpha$.

Thus the numbers of R consist of the numbers in F , zero and the numbers of F with the ' $-$ ' sign attached.

Also if α is $+$, $-\alpha$ is $-$ and vice versa.

Rule of signs in Multiplication. With the definitions given above, we can easily deduce the rule of signs, viz., the product of two $+$ numbers or of two $-$ numbers is $+$ and that of a $+$ number by a $-$ number is $-$.

Let $\alpha = (a, a^1)$, $\beta = (b, b^1)$. Let α & β be both > 0 , then $\alpha\beta > 0$.

Here $\alpha > 0$ means $a > a^1$

$$\beta > 0 \dots \dots b > b^1$$

$$\text{and } \alpha\beta = (ab + a^1b^1, a^1b + ab^1)$$

$$= \{1(a - a^1), b^1(a - a^1)\} \text{ [Cor. 1.]}$$

$$> 0 \text{ since } b(a - a^1) > b^1(a - a^1).$$

Similarly when α and β are both < 0 .

Nextly let $\alpha > 0$ and $\beta < 0$ or $\alpha > a^1$ and $b < b^1$

$$\text{then } \alpha\beta = (ab + a^1b^1, a^1b + ab^1)$$

$$= \{b(a - a^1), b^1(a - a^1)\} \text{ (cor. 1.)}$$

$$< 0 \text{ since } b(a - a^1) < b^1(a - a^1).$$

Division.—It is defined as in the number system F , viz., the result of dividing α by β to be the element or elements ξ in R which satisfies the relation $\alpha = \beta \xi$ (1).

It can easily be shown that this is possible in all cases except when $\beta = 0$. Hence division by zero is excluded from Mathematics.

Conclusion.—We thus have a 'number' system R in which all four operations are always possible except division by zero.

This number system R may be called the system rational numbers.

(To be continued.)

PROGRESS OF EDUCATION IN COCHIN—A HISTORICAL REVIEW.

Part I—Progress of Education up to 1890.

I

IT is well-known that, in modern times, every civilized State has a tendency to grow more and more socialistic. Functions that were formerly regarded as lying outside the domain of a State and were consequently left to private enterprise have in modern times, come to a great extent, within the sphere of State activity. The doctrine of *Laissez-faire*, as applied to State functions, holds ground no more.

Amongst the modern functions of a State, that of education, especially the education of the masses, occupies an important place. Whereas, in former times, no responsibility was felt by a State in connection with elementary education which was, in fact, left to the casual operation of philanthropists, in modern times its importance has been recognised by every State and no efforts are spared for its development. In the eloquent words of Mr. Asquith,* "though there are still plenty of ragged edges and ugly gaps in the working of the machinery, the ideal at any rate is universally accepted that no child shall start on the work of life unfurnished with the keys of learning and that in the case of every child whom nature has gifted with brains and ambition the barriers of fortune and circumstance shall no longer block its progress at any stage of the way which leads to the innermost courts of the palace of knowledge." This high ideal of popular culture may well be understood if, for a moment, we have regard to the fact that the

progress of a nation—material and moral—depends on a sound system of popular education. A nation growing up in ignorance is certainly doomed to a life of squalid poverty and stagnation. Referring to the importance of elementary education, this is what Gokhale has said,* "whether it is destitution, whether it is misery or whether it is disease that you want to fight, you are forced to this conclusion that the first remedy of all remedies is to be able to remove the ignorance of the mass of the people and to give to people the benefit of education. If you want to increase the wage-earning capacity of the worker, if you want the peasant to grow stronger and take better care of himself in his dealing with the money-lender, if you want him better to understand the benefits of sanitation, if you want him to grow out of superstitious beliefs—if you want to do anyone of these things, you will find that the first and foremost thing to do is to give him the rudiments of knowledge." Such is the importance of elementary education and such the responsibility of the State in its connection.

In many civilized countries such as England, a system of national education has been successfully established and is in full and fruitful operation to-day. Coming to India, we find it recently declared by the Imperial Government that, "illiteracy must be broken down and that, primary education has, in the present circumstances of India, a predominant claim on the public funds."† Whereas, however, the principle of compulsory education

* Address on the occasion of inaugurating the Elementary Education League, Madras (22-7-1911).

† Educational Policy of the Government of India, 1913.

* Address on 'Popular Culture'

has not yet, for certain financial and administrative reasons, been recognized by the Imperial Government, we find that it has been adopted—and successfully—by certain Native States such as Baroda. Coming to the little State of Cochin which has always been ahead of neighbouring states in the matter of literacy, it must be said that, although no system of compulsory education has yet been introduced, vernacular education has, as a matter of policy, been declared free by the Darbar and that, no efforts are being spared with a view to the extension of elementary education among the people. If the State of Cochin should feel indebted to its late Dewan, Mr. A. R. Banerji, for one thing more than another, it is for his able re-organisation of the Educational Department and for the impetus that he has given to the extension of elementary education in the State. As may be seen from the subjoined statement* Cochin now stands deservedly high with regard to the literacy of her people.

Literates in 1000.

	Males	Females
Cochin	324	45
Travancore	215	31
Malabar	89	6
Mysore	172	30
Tanjore	203	9
Madras	360	91

II

The year 1890 may be taken as a turning-point in the progress of education in the State. It was in that year that a systematic policy of developing elementary vernacular education was adopted by the Government and that a Department of Vernacular Education was formed. Before that time very little

* Cochin State Manual, p. 296.

was being done by the State to encourage or develop a system of elementary education in the interests of the people. While, during the previous quarter of a century, laudable efforts were being made by the Travancore and Madras Governments in that direction, the Cochin Government was not sufficiently alive to its responsibility in the matter, and the masses were left to themselves. Dewans Sankara Variyar and Sankunny Menon were no doubt men of brilliant parts and attainments who were, to no small extent, responsible for the building-up of the administrative edifice of Cochin on modern lines. But the development of elementary vernacular education was not at all recognised by them as a plank in the administrative platform. The Administration Reports of Dewan Sankunny Menon, for instance, are characterised by a naive simplicity and baldness which may perhaps raise a smile on our lips, living as we do, in the complex conditions of to-day. One has only for a moment, to go through the sections dealing with 'Education' in those Reports to understand what striking and manifold developments have taken place in Cochin education since that time. In vain do we look in those sections for a reference to such things as vernacular education, schools for backward classes, night schools, hostels, grant-in-aid rules, departmental examinations, Normal schools, Industrial schools, etc., which constitute the striking features of education in modern times. All that would be found in those Reports is a brief but interesting account of the Ernakulam High School which, under the skilful management of an eminent European Headmaster, naturally became an object of absorbing interest and attention in those times.

The absence of departmental operations—direct or indirect—in the matter of elementary education would lead one to believe that the percentage of literates in the State before 1890 must have been very small and that the people must, to a great extent, have been steeped in ignorance. Such however was not the case. We learn from the statistics given in the Census Report of 1891 that, at that time, Cochin was ahead of her neighbours in the matter of literacy. The percentage of literates among males was 23·8 and among females, 3·8. An explanation of this strange phenomenon may be found in the fact that pial schools—unrecognized and unaided by Government—abounded in the State and that not a little service was rendered by them in the matter of elementary education. The following remarks given in the Census Report of 1891 cannot fail to be of much interest in this connection:—

"We have already seen that, thirty years ago, a larger proportion of children were receiving instruction. In those days every well-to-do Tarawad had its own family tutor whose occupation was generally hereditary and who was paid in kind. The children of the poorer families in the neighbourhood were sent to him for such instruction as they stood in need of, for which they had to pay only a few annas a year in the shape of Onam and Vishu presents. In rural parts, however, very few families engage the services of schoolmasters but the latter receive pupils in their own houses and are paid by them in kind according to the measure of their means..... The matter and manner of the instruction given by them may raise a smile in students fresh from a modern training institution but they carried the rudiments of knowledge to

the doors of the poor and the lowly. With the opening of a Department of Education by Government, this race of schoolmasters has begun gradually to die out..... The Sirkar Elementary schools and such private schools as succeed in getting Government aid are not proving so popular with the rural population as the old-fashioned pial schools."*

With the development of departmental operations in the matter of elementary education, a good many of these pial schools have already disappeared and many are in a process of slow decay. In spite of this, however, more than a 1000 indigenous schools are still reported to be in existence of which a little more than 300 are vernacular schools. The existence of such a large number of indigenous schools contributing such a large and useful share to popular education is then a striking and remarkable feature of Cochin education. The usefulness of these indigenous schools has been sufficiently realised by the Government which has decided, as a matter of policy, to encourage these schools as much as possible and "without directly interfering with the internal management or curriculum more than is absolutely necessary, to improve their usefulness and efficiency by legitimate supervision and sufficient aid."† It may be hoped that a bright period, rich with useful activity, is in store for these schools in the years to come.

The following is a description of these schools, as they are now, given by a responsible authority after careful investigation.‡

* Cochin Census Report 1891, page 92.

† Vide Mr. Banerji's Press Communique on Education (Feb. 1908), p. 17.

‡ Given by Mr. O. Mathai, vide Administration Report of 1034 M. E.

Accommodation and Equipment :—Generally the schools are held on the verandahs of private houses or sheds erected at insignificant cost and they may be stopped or shifted whenever or to whatever place the *Asans* please. They have no furniture worth mentioning. The teachers as well as the taught make use of some sort of small mats. There are no books or slates. Rolls of cadjan leaves, written and unwritten, may be found, also cocoanut shells filled with sand to write on. In a few cases, however, benches, books and slates are provided. Some parents maintain verandah schools in their own houses primarily for the sake of their own children who are too young to be sent to distant schools through lanes and across canals.

Staff and Instruction :—The teachers in most of these schools are Pannikars or Ezhutachans whose hereditary profession is teaching. They have their own curriculum which, in addition to the 8 R's comprises Amaresam, Siddharupam, Ganashtakam, Vakia Adhivakyam, Sriramodantam and so forth. Monthly salary is a thing unknown in these schools nor is there any fixed scale of fees to be paid by the pupils though some fees may be realised from the middle and richer classes. The poor also pay something at times. The parents or guardians make presents to the teachers in the shape of cloth, money, etc., at set times of the year such as Onam, Vishu, Dasra, Makarasankranti, Deepavali, and paddy in the harvest season. Sometimes the teachers are fed by rich parents. In some places they are given rice, oil, etc., on certain days of the month such as Dwadesi and New Moon.

There are no regular hours of instruction but teaching is generally given from about 7 to 11 A.M., and 2 to 5 P.M. There is no Mid-

summer or Christmas vacation. "The schools are closed for a day or so every month for New Moon. There will be no school on important festival occasions and when it is inconvenient to the teachers or house-owners."

There are indeed zealous reformers and enthusiasts who have painted these pial schools in sombre colours and held them up as proper objects for ridicule and condemnation. It is no use denying the fact that these schools were defective in several respects and are so even to-day. In the first place the amount of instruction imparted was certainly meagre, no instruction at all being given in such useful subjects as Geography, History, Hygiene, Nature-Study, etc. Secondly, the methods of instruction followed were, to a great extent, crude and mechanical. Appeals were seldom made to the observation and intelligence of the pupils. It was the system of rote-teaching that generally obtained. The Kindergarten methods of to-day were unknown and unintelligible to the *Asans*. Thirdly, the teachers of these schools were unqualified and untrained men, ignorant of modern pedagogical principles and unsparing in the use of the rod. Fourthly, there was probably little in these schools to stimulate the interest, the enthusiasm and the artistic sense of the pupils. No wonder then, if these schools came to be regarded by the pupils as veritable prison-houses where they would be subjected to a laborious drudgery without any free scope for their budding juvenile spirits.

Notwithstanding these and other defects, these schools were not without certain good points which made them serve a useful purpose. In the first place, it has to be remembered that, having regard to their cheapness, the rudiments of culture were brought by

them within the reach of even the poorest. This is a point specially worth remembering in modern times when education has been getting more and more costly. Secondly, the laxity that obtained with regard to the hours and periods of instruction made these schools more adapted to the needs of the villagers. The schools could conveniently be closed at times, according to the needs of the pupils. Thirdly, the school was situated in the bosom of the village itself and there was accordingly a close contact between the *Asans* and the parents of the pupils. Fourthly, the teaching imparted was, to a great extent, practical. Besides being furnished with a mass of practical and useful knowledge, the pupils were also well-grounded in moral maxims and fed with stimulating stories from the Hindu Epics and Puranas not to speak of the grounding they received in Sanskrit.

Having regard to these and other good features, these pial schools are certainly deserving of a kindly treatment. Dull indeed must he be of feeling and of sympathy who would condemn them to neglect or extinction. It is indeed a matter for sincere gratification that these schools are being slowly taken in hand by the Cochin Government and moved cautiously along modern lines of progress.

III

The administration of Dewan Shungunny Menon (1860-1879) constitutes indeed an important epoch in the progress of English education in the State. Although no initiative was taken by him for the expansion of elementary vernacular education, the progress of English education in the State was carefully promoted by this able Dewan.

As early as 1818, an attempt had been made by a Missionary, Rev. J. Dawson, to in-

troduce English education in the State. However the English school opened by him at Muttancherry had to be closed for lack of pupils within 8 years. At the instance of the Resident, Mr. Casamajor, another school was established in 1835 in the same place where the children of the Jews were taught English, Hebrew and Malayalam. This school is still in existence as an Aided Hebrew School and is held in one of the synagogues in Jew Town. In 1837 an English school was opened at Trichur and another at Tripunathara for the education of the Cochin Princes. It was in 1845 that an English school was opened, for the first time, at Ernakulam. All these schools were of the elementary grade in the beginning.

During the administrations of Dewan Shungunny Menon and of his successor, English education advanced in the State in the three following directions:—(1) the gradual development of the English school at Ernakulam, (2) the establishment of District Schools at other centres, (3) the appointment of Mr. Sealy as Director of Education in 1876.

(1) It was in 1865 that the English school at Ernakulam was placed under the charge of an eminent English educationist, Mr. A. F. Sealy, M.A. Under the able management of Mr. Sealy the school continued to flourish and its standard was gradually raised. The Administration Report of 1865-66 makes the following reference to him:—"Though strict in the discharge of his duties, Mr. Sealy is kind and considerate in his treatment of the scholars who consequently give him willing obedience. Mr. Sealy has succeeded in maintaining a wholesome discipline without which no large establishment could long

exist." About 1868, at the instance of Mr. Sealy, a fund known as the 'Ernakulam School Education Fund' was formed in the interests of the poor scholars. It was subscribed for by the richer students and teachers of the school. Further a Book Depôt was maintained by him for the supply of text-books to the pupils.

In 1868 the school first presented pupils for the Matriculation Examination and seven years later, during the absence of Mr. Sealy on furlough, it was raised to the standard of a second-grade College at the instance of Mr. D. Cruikshank, M.A., the acting Headmaster. On his return from England in 1875, Mr. Sealy became the Principal of the College and in that capacity, he continued, down to his retirement in 1891, to guide the destinies of the institution with remarkable ability and zeal.

The growth of the English school at Ernakulam from its infancy to its present standard is therefore to a great extent connected with the name of Mr. Sealy. Gifted with a striking personality and with sterling qualities of head and heart, Mr. Sealy was able to command the regard and admiration of all who came in contact with him and to enthrone himself in the hearts of his pupils. What Powell was to the Presidency College, what Porter was to the Kumbakonam College, that Sealy was to the Ernakulam College. Abounding in love and sympathy for his pupils, he took an unceasing interest in their welfare and was their guide, friend and philosopher. As Principal, and later on as Director, he was given almost a free hand by the successive Dewans of Cochin and their confidence was fully justified. Although possessed of a giant's strength he never used it like a giant

but was always gentle, moderate and reasonable in the exercise of authority. The name of Mr. Sealy has become a household word in Cochin and so long as English education continues here, his memory will be cherished green by the Cochinites.

(2) It was during the administration of Mr. Shungunny Menon that English schools were opened at various centres in the State. There was already a flourishing school at Trichur. During the period (1865-1873) English schools were opened at important centres such as Irinjalakuda, Chittur, Vadakancherry and Muttancherry. In 1877 the school at Vadakancherry was transferred to Kunnankulam. These Anglo-Vernacular schools were of the elementary grade in the beginning. In 1888 the schools at Trichur, Chittur and Kannankulam were raised to the Lower Secondary standard and two years later the school at Trichur was made a High School. Thus it may be found that during the period referred to above, much was done by the Government for the development of English education in the State.

In the year 1887 the first Sirkar school for the education of caste girls was opened at Trichur in honour of the Jubilee of Her Majesty Queen Victoria. Thus were sown the first seeds of female education in the State.

(3) In March 1876, Mr. Sealy was appointed Director of Education, and the five District schools were placed under his charge. The development of these schools since that time is connected with the name of Mr. Sealy. From time to time, they were carefully inspected by him and their growing needs adequately provided for. It was at his instance and under his supervision that these

schools were provided with stately buildings and massive furniture. The following passage from the Administration Report of 1877-78 will give some idea of his activity as Director:—

"A very complete examination of each school has been made during the year, by the Director, by written papers and viva voce examination. The District schools are reported to have been visited periodically, during the year—Trichur 6 times; Chittur twice; Irinjalakuda twice; Kunnankulam 4 times; Muttancherry once and the result has been to draw forth very satisfactory statistics as to their prospects." Not merely as Principal but also as Director, Mr. Sealy has rendered valuable services to the State and left his footprints on the sands of Cochin education.

P. S. RAMAKRISHNA IYER.

(To be continued.)

THE TEACHING OF MODERN LANGUAGES IN OUR ELEMENTARY SCHOOLS.*

INTRODUCTION.

THERE is ample evidence on all sides to show that Government are deeply anxious to spread Primary instruction among the masses. It is clear that we have to work very hard indeed, if we are to be regarded at all by the enlightened nations whose greatness depends in a large measure on the dignity and power of their public institutions. No one can doubt for a moment that in the struggle for supremacy, only those nations

* The Inaugural address delivered by Mr. C. R. Narayan Row at the meeting of the Bangalore Teachers' Association.

will be best able to hold their own, which look after the training and education of the youth, by insisting on a high standard of efficiency in the schools and, at the same time, increasing the economic and moral efficiency of family life. In our own province the Elementary schools have made steady progress and the confidence very naturally entertained that this progress will be maintained in the future is not likely to prove deceptive. I am sure that the spirit of enthusiasm that is manifest everywhere will not be short-lived and will, on the other hand, overcome all difficulties in the way of making popular education universal.

AIM OF ELEMENTARY SCHOOLS.

It is not uncommon to come across people who hold somewhat hazy notions about the scope and purpose of our elementary schools. There is a firm belief that they form a preliminary step for Secondary education, and it seems to me that unless we have definite views about them, our educational activity must be more or less a groping in the dark. Irrespective of considerations of Secondary education, Primary instruction must have an aim of its own and I venture to think that the mistaking of the ideals of these two departments leads pretty often to confusion. Our Elementary schools ought to be fashioned to train children to take their place in the society,—to whatever rank they may belong, and in the State as worthy members. If this is going to be our aim, then we realise the need for moral and civic education together with such knowledge and skill of other crafts as may be necessary for living a fuller and richer life, due attention being, of course, paid to their physical development,

I am not quite prepared to say that all our schools in the province have come up to this level and it is not possible to bring them up to it in the course of even a decade. But given tolerably favourable conditions and circumstances, I venture to think that these aims do not lie beyond the range of practical politics; and without being extravagant, they merely supply the actual wants of the present day. The attainment of these aims has been extremely slow on account of varied reasons, for instance the village school where there has been a large number of children and only one class and one teacher, or where the attendance has been irregular or where there have been other difficulties such as the children having to learn a language quite foreign to them. Under the old world conditions, the approach to these ideals must have been easy and could have been achieved by merely developing the resources of our vernaculars. But modern life wears an entirely different aspect and the alteration is due to the fact that the rural population come into more frequent contact with the towns and hence the rapid spread of civilization; the expansion of trade and the consequent desire on the part of the lower ranks of people for an increased knowledge in all industries and occupations—causes which have made the introduction of a foreign language in all our rural schools almost a matter of necessity. Still the Elementary schools must be viewed as complete in themselves with an equipment and a curriculum suited to their special needs without reference to the Secondary education except in such cases where the Elementary schools are designed to train the children for the higher courses. For purposes of this paper I naturally prefer to take an Elementary

school of this type which in addition to other studies includes a course of training in English.

THE THREE ESSENTIALS.

Formerly it used to be considered a fine thing to have a large number of Elementary schools established, admitting hundreds of children and having numerous classes. In the matter of selecting teachers we had more or less accepted the principles of Frederick the Great whose policy was to order the superannuated soldiers to be appointed schoolmasters so that neither the soldiers nor the schools might cost him anything. In regard to the subjects taught, we had in the past somewhat unconsciously followed the brilliant example of Wackford Squeers,—"that immortal pedagogue who owed much of his deserved success to his skill in the art of drawing an advertisement." But we have learnt better since and realise the importance of three factors in estimating the success of the schools, namely, (1) the quality of the teacher, (2) the nature of the subjects and (3) the method of teaching them. Our educational endeavours in the past had been to cast every mind in the same mould and the recent researches in experimental child psychology have shown that they are very futile indeed. No school organisation can claim to be sound if this principle is not adequately recognised and provided for in the shape of different curricula of studies and special treatment of the mentally defective. I shall confine my remarks, however, to the question of teaching English to the children attending our Town Elementary schools and shall not enter into the other wider problems.

LANGUAGES.

I have stated the aim of our Elementary schools and in the teaching of any subject the

ideals should not be lost sight of but should have a direct bearing on them. It is a mere truism to say that instruction in any subject must be made to conform to the degree of physical and mental development; and that having regard to the differences in the characteristics of the sexes and their future spheres, instruction must be given proper to each. These points should be carefully remembered in the training of teachers, in the selection of text-books and the methods adopted.

The Indian vernaculars are radically different from any of the European languages; and before I speak about the teaching of English it will be perhaps necessary to say a few words about this difference. The English phonetics is a great bugbear to the children and the difficulties in acquiring a firm grasp of English orthography can hardly be over-estimated inasmuch as the characters are at once redundant and deficient. The pressing question with the Elementary schoolmaster is how to enable the child to get a mastery over the English alphabet with the same degree of facility with which the vernaculars are learnt. We have in practice the picture method, the look-and-say method, the rotatory disc method and a variety of other devices intended to make the process of learning the alphabet easy and natural. Apart from the difference in the genius of the languages like the Dravidian group and the Germanic, I am inclined to think that the Indian child has great difficulties in mastering the intricacies of spelling, idiom and style because it is a question of heredity. The Indian child is born evidently with a strong pre-disposition for the vernaculars rather than for a foreign tongue and the whole purpose of education in the elementary grades should be to minimise these difficulties. English spelling is some-

thing worse than getting into quicksand; the rules are arbitrary; the spelling of a word is different from its actual pronunciation; and proper accent is certainly far from being uniform even among the English-speaking people. The Elementary schoolmaster may well look forward with a sigh to the day when English spelling would be simplified and would conform to phonetics. Then the child, having to learn two languages which differ from each other in every conceivable respect, is confronted with a situation in which the niceties of an inflected language appear as anomalies of the other.

The teaching of any language in the Elementary schools consists of Reading, Writing and perhaps a little Composition. I would rather alter the last to Conversation. Indeed the art of speaking correct English is well worth having and our own powers or rather the difference becomes striking, when we converse with an Englishman of culture. There is plenty of difference between conversational and written English. If I were an Elementary schoolmaster, I should first try to formulate a policy that would govern the language teaching of my school. Now the essential in the teaching is simply to make the children familiar with the words in everyday use and sentences which express the common ideas. They are to acquire facility in the correct use of words, and the formation of sentences. While attending to enrich the stock of words, I should not forget to do something to develop their intellectual and moral capacities. With a view to this, I would introduce, in the midst of their lessons, which consist of correct articulation, reading, writing or conversation, topics such as would awaken their moral interest or would exercise their powers of thinking. I shall illustrate this

point in the lessons that I shall come to presently. Although different hours may be allotted to these subjects, I would certainly treat reading, writing and conversation as mutually related; for instance, the topics of conversation would be drawn from the reading lessons, round which, especially, if the teacher happens to be a resourceful man, plenty of matter rich in interest for children, might be grouped. The point in thus introducing topics of general interest consists in widening the knowledge of the child and increasing his vocabulary. Indeed I would make my teaching and my school very elastic, and when the Inspecting officers visit, I would seize the opportunity of giving a lesson before them inviting them to criticise my methods, or would request them to give model lessons in which I would not blush to note the good points.

THE OLD METHOD.

At present the deficiencies of method and not infrequently of knowledge as well are attempted to be more than compensated for by having recourse to the gentle agency of the rod. Like the grandfather of Benvenuto Cellini, the ancient schoolmaster—and not a few among the moderns—was a believer in reaching the child's brain through his skin and happily, in the present day, those refined methods are given up. Madame Montessori declares that the day of the rod in our schools has disappeared. I should think she would be more correct to say that the day of the old world methods is gone. Getting by rote, learning to believe on trust where we could not prove, undue severity, are some of the characteristics of the old methods, and they are as objectionable as the new-fangled pruderies of some of our educational Phari-

sees. To amend these defects, it is obvious that in the future we have to look for different qualifications in the English teacher in our Elementary schools. I shall briefly allude to this subject.

THE MODERN TEACHER OF LANGUAGES IN THE ELEMENTARY SCHOOLS.

I should suppose the teachers form the greatest factors in the teaching of any subject, and particularly so in regard to languages. After considerable experience, it has been found advantageous, at any rate in the Elementary school classes to employ our own men to teach English, for reasons such as the following:—They will be in a better position to maintain discipline, understanding as they do the character of their pupils. Secondly, they can enter thoroughly into the pupils' special difficulties and detect their source, which often spring from applying the rules of their own language to another of a different construction. If English is taught by our own men, there must inevitably be a slight sacrifice in accent and idiom. In the elementary grades this sacrifice is not much, provided the teacher is a man full of knowledge of his subject and full of enthusiasm for his work.

In India, teaching is an open profession and quite a large number of people is allowed to teach with no pretensions to education. Every teacher should have a certificate testifying to his general efficiency and a diploma of technical qualifications. It must be made impossible for anyone that has not passed through training schools, of the type of 'Ecoles Normales' to teach; and the training of the teacher should embrace general education in addition to a professional course. I mean culture and teaching power.

The entrance age of these pupil-teachers when they come to the Training Colleges should not exceed twenty and the teaching staff of the college "should be impressed with the necessity of encouraging in these young men a large amount of personal effort, and initiative in carrying out their own education." "The Socratic method is to be largely practised and personality should have a free play." I hold to the view that a good teacher for the Normal College "should be a patient initiator of intellectual interests rather than a deliverer of set lectures." "No doubt, the lessons that his pupil-teachers will have to give in the practising sections may be clear, exhaustive, and most painstaking, but may be wholly unattractive." What is wanting is the literary sense, and all our Elementary school teachers should be initiated into this 'sense' during the period of training and they should foster it when they leave the Training College.

The best way of meeting the case appears to me to provide these pupil teachers with inspiring models to which their own exertions might conform. With this view they should be allowed to hear model lessons in the practising school and themselves give at least six half-hour lessons before other fellow-students who criticise, "while certain chosen students should take down in writing an account of both the lessons and the criticisms." If I were conducting a class for these Normal students, I should announce the subject of the lesson two days before, and would insist on its being prepared by them all; "the one who finally gives it being chosen by lot on the morning of the day itself." I would scrutinize these written out lessons which ought to be submitted to me and would return them the same day with my

corrections and suggestions in accordance with which they have to modify their notes.

I have spoken, though necessarily briefly, about the literary education and the training of teachers in the Normal schools and if the training had been carried on on sound lines, I should not hesitate to think that inefficiency would become obsolete in our department. We should then have a new race of Elementary teachers with confidence in their own powers, and go about their work fully realising the seriousness of their responsibility.

METHOD OF TEACHING.

Foreign languages are taught or should be taught in our schools by the Direct Method. In the absence of all originality on our own part, it is likely that freshness and the consequent attractiveness of all these new methods may "make us too ready to identify novelty with wisdom." Perhaps here it may be well to explain exactly what is meant by the Direct Method. In other words it is the natural method, i.e., the best of all methods, such as the mother intuitively employs in teaching her children to speak. In the lower grades of our Elementary schools the method ought to consist in teaching English without having recourse to translation; but it is wrong to suppose, as some of us do, that translation is opposed to the spirit of the Direct Method. On the other hand, in the higher grades of these schools translation is a useful and indispensable ally. The object of dispensing with translation in the early stages is that the intrusion of a second language will interfere with the efforts of the teacher in establishing an intimate connection between words and ideas. Accordingly the lessons deal with things familiar to all children or things made famili-

ar to them in their vernacular lessons. Thus the whole attention of the teacher will be concentrated on correct pronunciation and formation of sentences. The object or objects that form the text of the lessons should be placed before the pupils or pictures thereof or a blackboard illustration may be developed during the progress of the lesson. To make the verbs intelligible, the actions spoken of should be performed as far as possible by the teacher and imitated by the pupil in the best style. With regard to adjectives, several objects should be mentioned which possess common qualities. You will thus see that this is the method universally adopted by every intelligent mother in teaching her children to speak the mother-tongue. I therefore do not see anything new in the method. Only we were not sufficiently observant of what goes on around us and had totally neglected child psychology.

Instead of theorising in the abstract, it would be more to the point if I endeavour to give an account of how I would practise the Direct Method if I were in charge of the Primary schools. I shall first state the practical instructions that I would observe in teaching English in the different lessons; then proceed to illustrate them in a short lesson, say to the Third Standard. In the first two Standards I would never use any text-book but would conduct my lessons orally and take the little children over a prescribed ground. I would never use vernacular synonyms for the English words, but on the other hand would help the boys to connect words with objects by presenting them. Up to the Fourth Standard I would carefully avoid translation, for the pupils should learn the habit of thinking in English and should never be allowed to frame English sentences through

the help of their mother-tongue. The reason why I omit translation in these stages is to enable me to devote the whole time that is available to the English teaching accustoming the eye and the ear to the use of the foreign language without the medium of the vernaculars. "We know that words are only symbols of ideas and translation is practically an interposition of two symbols between the thought and its expression." In the Fourth and even the Fifth Standards, I would much rather use English synonyms and paraphrase so as to let the pupils have plenty of time to manipulate the foreign idiom.

Correct articulation and pronunciation and the avoidance of that sing-song school tone should be attended to in the lowest classes. The children should be encouraged to speak audibly. In the next higher Standards, the children should be told to read portions of books, such as Swinton Readers or Longman's or Blackie's Primers, recommended by the teacher to whom they should give a verbal account of what they have read. With regard to grammar in Primary schools, it ought to be taught for practical purposes; the science of Grammar belongs to a higher grade of teaching. I would therefore restrict definitions and rules within the narrowest possible compass, and without using any book, would let the children make their own definitions if they are absolutely necessary.

In the classes like the Fourth Standard where written exercises are done, I would keep the aims of such exercises steadily before me, which are to enable the child to think, to classify the ideas and to express them clearly, correctly and in proper sequence. If these things are attended to in the earlier stages, children will find their advanced courses

much simpler. As regards subjects set for such written exercises they should be within the scope of the children's mental powers and I would take particular care not to include any in which they may have an opportunity of uttering the merest platitudes. Before I set them to write, I would treat the subject *viva voce* trying to stimulate the thoughts of the boys, and drawing their attention to the principal and subordinate ideas. I should next summarise these subjects on the blackboard, which ought to form the heads to guide the children in writing out. I should separately correct these exercises and insist on the boys bringing to me the corrected copies. The value of thus transcribing twice is immense.

LESSON.

I shall next proceed to illustrate a few of the points that I have sketched above in a lesson, say on a Goat to the Third Standard, the pupils of which are already familiar with English words and the forms of simple sentences. My object in the lesson would be three-fold. Firstly, to give the children all the main points about the goat, secondly to increase their vocabulary, and finally to familiarise them with the style of conversational English: and my equipment for this purpose would be a large picture showing the side view of a goat; and another in which a goat is represented in the act of climbing a rock and some grazing. I would put the first diagram and start the lesson, thus by addressing the class, "Now, boys, what do you see in the picture?" - All the boys would put up their hands. I would single out one and ask him to mention. Answer: "a goat." "No, you must not say a goat but say "I see a goat." Pupil: "Sir, I see a goat." I

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would get this form repeated and next ask: "Where have you seen a goat?" The answer must be in the following form: "Sir, I have seen a goat in the school compound." Next, "Was it a black or white goat?" Answer: "It was a white goat." "Where do you now see a goat?" Answer: "I now see a goat in the picture." "What is its colour?" Answer: "It is a black goat." By repetition from several pupils these two forms of sentences ought to be made familiar to the class. I would next proceed to mention each part of the animal. "How many legs has the goat?" Then pointing "one leg, two legs and so forth." Then adding and still pointing, "Two fore legs and two hind legs." "How many legs has the goat?" "The goat has four legs." "What are these two called?" "These two are called the fore legs (At this point I would ask some child to come up to the board and write out the words Fore and Four and then get the class spell). "How many hind legs has the goat?" "The goat has two hind legs." "How many legs have we?" "We have two legs." "How many legs has the cow?" "The cow has four legs—two fore legs and two hind legs." Pointing to the hoofs, I would ask: "What are these?" Answer: "Hoofs": "No, say these are hoofs." Always I would insist on complete sentences. "What have we?" "We have feet." "What have the goats?" "The goats have hoofs." Then I would speak of action and exhibiting the second picture, would try to bring out the difference between walking and climbing, by executing these very acts. "What is this goat doing?" pointing to the climbing one. "This goat is climbing." "What am I doing?" "Sir, you are walking." Krishna walks, "What is Krishna doing?" "Krishna is

walking." Then I would introduce the different words for eating. Pointing to the snout in the first picture: "What is this?" One pupil may say: "This is mouth." "No, we have a mouth and this is snout." Then get the class to say "The goat has a snout". Ask some child to write this word on the blackboard and familiarise it by repeating the question and answer. "What do we do with the mouth?" One pupil may say: "We speak with the mouth." Accept it and then ask "Can the goat speak?" "No, The goat cannot speak." If I do not succeed in getting the answer: "We eat with the mouth," I would rather gesticulate the act by way of suggesting, even at the risk of moving the laughter of the children, than use a vernacular term. Some pupil is bound to say, "We eat with our mouth". Then pointing to the goats in the second picture, "What are these doing?" "The goat is eating." "Is that correct?" Some pupil will say, "The goats are eating." Here is a piece of grammar that has accidentally turned up for education. Why do we put 's' after goat? Answer: "We put 's', because there are several" and not the mechanical hackneyed phrase 's' is the sign of the plural. The former grammatical rule has now some meaning to the pupil if illustrated in this fashion. We do not say: "The goats are eating, but say the goats are browsing". What is this goat doing?" "That goat is climbing." Similarly I would pass to describe the other parts of the animal such as the horns, beard, the short tail and the thick coat of hair. What is the result of my lesson? The pupils now know new words like fore and hind, browse and climb and beard and so forth—quite enough for the lesson. Then they know certain actions such as climbing and browsing and can distinguish

them from corresponding actions of walking and eating. (Adaptation of a French lesson described by Miss J. D. Montgomery).

Finally they have been enabled to use the ordinary form of colloquial English, which will stand them in good stead in their written exercises. In recapitulating the lesson, I would dispense with the pictures and would develop an illustration of the goat on the blackboard as I go on, drawing the attention of the pupils to the parts as I finish them. In the present lesson I would begin with the snout which is the distinctive feature of the goat and not with the legs which would be general characters shared by other animals also. During the whole lesson I would let the class be merry, the children laughing and freely asking questions, and I would myself assume a happy look.

CRITICISM.

A statement was made that in practising the Direct Method children's vernaculars will be carefully avoided. There is very little difficulty in dealing with scholars who come to the school without much knowledge of the mother-tongue, but all the children that come to us have already learnt to think in their own language. The question is how to avoid vernaculars in such cases. In the lesson sketched above, suppose a boy should answer the question: "Now boys, what do you see?" "Sir, I see a మేక or కురి." I would simply get over the difficulty by saying: "Don't say I see a మేక, but say 'I see a goat.'" The case is analogous to that of an English child who, seeing a donkey cried out "a cow!" The mother promptly said, "No, this is a donkey,"—which the child readily repeated. Children between the ages of two and four years possess quite a faculty for learning

words and establishing an association between words and objects; and the danger of letting them use a foreign language through their vernaculars is illustrated in a case like the following. The children read in their books "a man." ఒకమనిషి and "a fox" is to them "ఒకకూక," and later "Rama is abed" is "రామఒంటపడినా." The teacher is sure to meet such difficulties if he allows the use of vernaculars in the earlier stages of teaching a foreign tongue and translation in the lower standards is perfectly useless. A young fellow having to render "Be, Be, little be" into English burst out "Be, Be, little be."

It is an undisputed fact that learning a foreign language through translation is more laborious and entails a greater expenditure of mental energy, and the results are by no means proportionate to the amount of labour, though translation and double translation have their own place and importance in the advanced course of literary studies.

TAMIL ORTHOGRAPHY AND MR. M. RANGACHARYA, M.A.*

BY MR. T. G. ARAVAMUTHAN, B.A.,
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IT is not all of us who note the deficiencies of the Tamil alphabet. We are so accustomed to compare the spelling of English words with the spelling of Sanskrit and of Tamil, much to the disadvantage of English spelling, that we are slow to realise the insufficiency of the Tamil alphabet for representing adequately Tamil as she is pronounced. An attempt to give a child an exercise in Tamil dictation will reveal how much we have to strain and twist the natural pronunciation of

* A Review of 'Orthography and Pronunciation in Tamil,' by Rao Bahadur M. Rangacharya, M.A. (4 As).

Tamil if we would have the child write and spell in consonance with the traditional method. Reform is therefore necessary—such reform as would make the pronunciation of Tamil and its orthography approximate as closely to each other as is possible. Either the alphabet may be enlarged to suit the sounds of the language, or the vagaries of the orthography may be reduced to submission to well-known phonetic laws. Mr. Rangacharya has chosen to take etymology as the guide to orthography.

The alphabet which is now used for Tamil is inadequate for the purpose of representing pure Tamil sounds and words. Somehow, the language, in early days came to be written in a defective alphabet, and the alphabet has never been augmented or reformed to meet the changes which in process of time came over the language. If Sanskrit and other words had not thrust themselves into Tamil, the alphabet would have been, in some degree, a satisfactory symbolic system. The influx of foreign words, especially of Sanskrit words, created a need for additional symbols to represent the new sounds. No new symbols were, however introduced, and the original alphabet had to represent the new sounds. The original Tamil alphabet would have found it very difficult to give a visible form to the new words were it not for the fact that the Tamilian, in pronouncing the new sounds, made them, on account of his inability to pronounce them accurately, approximate to Tamil sounds, and gave Sanskrit words a Tamil form. The Tamilian was able to pronounce correctly some Sanskrit words as they are pronounced in Sanskrit, and these are the words which in Tamil are known as *tatsama* words; some others he was not able to pronounce without phonetic alterations, and the words in their

modified form are known as *tadbhava* words. But most of these words, whether *tatsama* or *tadbhava*, have found a permanent home in Tamil, and have become integral parts of the Tamil language. Purists may eschew them; but since they have established themselves in the language it is not possible now to regard them as entirely alien to the language. We may regard English and even Hindustani words as aliens knocking for admission to the full rights of citizenship and we may refuse them any of the privileges of citizenship, but it is too late now to regard the Sanskrit words now current in Tamil as aliens. We should not treat them as aliens or slaves; and if we would not give them the status of freemen with full citizenship, let us grant them at least the circumscribed citizenship of freedmen. Sanskrit words have found places in Tamil, but have not been allowed, through the deficiencies of the Tamil alphabet, to retain the phonetic form which they had in Sanskrit. The various gradations of assimilation have imposed on Tamilised Sanskrit words forms which vary from Sanskrit in all ways and degrees. Hence the need for reforms similar to those suggested by Mr. Rangacharya.

The words which have come into Tamil from Sanskrit are divided by Mr. Rangacharya into four groups,—*tatsama*, *semi-tatsama*, *tadbhava* and *semi-tadbhava*. To make this clear, we may take Skt. *Kalyanam* ('marriage' in Tamil) which is current in Tamil; the word comes in Tamil in the form *Kalyanam* and so may be said to occur in the *tatsama* form; it appears generally as *Kaliyanan* or *Kalliyanam*, and these would be called by Mr. Rangacharya the *semi-tatsama* form; it occasionally appears as *Kallanam*, and this is the *semi-tadbhava* form; it is colloquially pronounced *Kannalam*

and this is the *tadbhava* form. 'It is only when a borrowed word has gone through all these changes in form and phonetics, which are necessary to Tamilise it fully, that it follows the rules of phonology which are observable in pure unborrowed Tamil words. Laying down this rule, Mr. Rangacharya proceeds to show that 'where the Tamilisation is only partial the sound-value of the letters க , ச , ஊ , ழ , ஶ is generally determined by that of what they stand for in the original source-words'. Holding that the real aim of pronunciation should be to make the spoken word easily intelligible, he protests strongly against the tendencies to pronounce well-assimilated loan-words as if they are not so assimilated and to pronounce unassimilated words as if they have been assimilated. The orthography, therefore, should show the pronunciation and the derivation, for, according to Mr. Rangacharya, the indication of the derivation is quite as important as that of the pronunciation.

Mr. Rangacharya's theory is not capable of easy application to a large number of words. There is likely to be much of difference of opinion about the degree of assimilation of a loan-word, and so, about the class to which it is to be assigned. In matters of orthography we should follow only that guide which would lead all to an invariable and unvarying result.

Evidently Mr. Rangacharya is tempted to lay stress on the importance of the etymology of words as the guide to orthography because he finds that the pronunciation of the loan-words is by no means uniform. But why should the indication of the pronunciation be subordinated to the indication of the derivation? It may be admitted at the outset that pronunciation

does vary with the region and with the class or the creed to which the speakers belong. This however is no reason why the real and correct pronunciation should not be sought to be placed before the public. The alphabet of Tamil cannot, indeed, represent satisfactorily the correct pronunciation of Sanskrit words, but why should not the alphabet be made to represent, as far as it can, the Sanskrit pronunciation? The word வித்தனம் would then be spelt வித்னம் ; but how is this inferior to வித்தனம் which Mr. Rangacharya's guide, etymology, would lead him to? This is a point which Mr. Rangacharya has unfortunately failed to discuss at any length.

Some Sanskrit words have entered Tamil through Prakrit. If we are to accept etymology as the guide, there arises the doubt whether it is the immediate ancestor, the Prakrit form, or the remote ancestor, the Sanskrit form, which is to be taken as the standard for the purpose of deciding whether a word is *tadbhava* or *tatsama* or intermediate in character. If it is to the Sanskrit form that we should go, what is the line of argument which would deter us from going to the parent Aryan root? This question too has not been discussed by Mr. Rangacharya with either thoroughness or definiteness.

There are a few points in which Mr. Rangacharya might have been with advantage a little more precise,—though precision in those points is not necessary to the line of argument he follows. Discussing the difference between ச and ஸ , he suggests that 'these originally represented two distinct sound-elements.' There is a clear and unequivocal statement in the *Nannul* to the effect that these two letters represent two different sounds, and the work gives the

difference in precise language. An enquiry into the causes of the decay of the difference would in the hands of such a shrewd investigator as Mr. Rangacharya have been the means of clearing up some confused thought on the point. Though he declares that the value of ஸ when doubled is different from its value when not doubled, nowhere does he state what its exact value is, and how it has come to have that value. In none of his frequent references to ஸ does he say more than that it is closely akin to the z in the English word, *azure*; it is surprising that his keen ear has not identified it with the unvoiced form of the z in that word. He holds, evidently, that it is only the சுத்தஸம் that is pronounced with the elided u ; but even முத்தஸம் is now pronounced with the elided or truncated u ; the terms seem to have misled him. It is indeed worth inquiring how it is that while there is actually no difference in the pronunciation of the final u in words of either class, but only a difference in the *sandhi* rules applicable to each class, the one has come to be called full u , and the other elided u , as if the difference lies in the pronunciation.

For purposes of the accurate representation of foreign sounds,—a need of the scientific student,—Mr. Rangacharya has devised a modification of the Tamil alphabet. It is constructed with much ingenuity and is yet very simple. Loops and strokes introduced into the ordinary Tamil alphabet serve to mark the voicing and the aspirating of consonants. But the number of consonants is so enormously increased that if the present modes of consonant-animation are retained, the alphabet would be cumbersome beyond comprehension. If this alphabet is to be adopted,

the modes of consonant-animation will have to be simplified on lines similar to those once suggested by the present writer in an article, 'Reform of the Tamil Alphabet,' in this Review (Feb., 1912). Mr. Rangacharya believes that the letter can be written as easily as the Tamil letters, but we beg to be allowed to differ from him and to withhold our reasons for doing so,—for it would take more space than is available to demonstrate that a more cumbersome graphic system cannot be invented. There are loops within loops and there are strokes projecting from the loops; the nearest approach to this alphabet is the Oriya graphic system,—system which is notoriously cumbersome and awkward.

These are only minor defects in the conception and the execution of the task which Mr. Rangacharya set before himself, and these ought not to blind us to the excellence of the exposition of Mr. Rangacharya's theory. Occasionally, indeed, he would have done well to have chosen examples more common than those which he makes use of, but, his theory is too good and too well expounded to be marred by the occasional uncommonness of the examples. It may confidently be said that no work on Tamil Philology has appeared in recent years which may be placed on a level with this. It may even be said that there is no modern work on any department of Tamil Philology which may be said to approach this in absorbing interest and mastery of treatment. This pamphlet is not only a proof of Mr. Rangacharya's versatility but of his lucidity of exposition and mastery of principles. Every lover of Tamil should study and digest this pamphlet. The thanks of the Tamil people are due to Mr. Rangacharya for doing to Tamil,—with which

he has had no connection,—what even professed Tamil scholars have failed to do for the language which they expound and extol.

SPELLING REFORM AND PEACE.

By the Sekretari, Simplified Speling Societi, London.

SO pacific, so beneficent, so utilitarian a project as the Simplified Spelling Society's petition asking for a Royal Commission of enquiry into the present irrational system of spelling, may seem inopportune at a first glance—a device of cranks or pedants too enthralled by their own peddling reforms, to heed the life-and-death struggle which is convulsing Europe. We had half feared the time would seem so inauspicious, that many would stay their pens with the uttered or unuttered thought—"Ridiculous to worry any Government with these trifles NOW."

But this thought could only spring from a shallow conception of what we are working for. If we are to judge by the many signed petitions which daily drop into our office letter box, it has obviously occurred to few. Our honest opinion is, that never was occasion so auspicious as the present. True, the work of collecting signatures will be carried on through dark days of trial, perhaps with the sound of distant cannonading in our ears, and in our hearts griefs and fears unspeakable. But when "this world-madness has been exorcised," when all the hateful noises of warfare are merged in that lovely caressing word "Peace" then will come the day for such movements as ours. Ours is a tiny reform, a debateable advantage many would say, yet we are not afraid or ashamed to set it boldly in this larger light.

The peace which is coming will be such as the world has never known—not a half-fearful, half-unwilling respite from battles, but an organised peace, a peace for which hundreds, nay thousands of men will have laid down their lives.

Peace propaganda has done much to turn men's minds against war; Norman Angell has preached incisively its economic absurdity; other men have written graphically of the stench and din of the smoking battlefield. But the day of the peace-maker is only coming. When civilisation reels exhausted from the fight, it will be his to step in and, gathering all his strength make his gospel a living reality; enter into his kingdom which we are told on the highest authority is of God. In the great pacification that is coming, an impetus will be given to reforms social and educational. Reconstructive work will necessarily be pursued with new energy, and in the process of building up, men will be less tolerant of old-established errors. Simplified spelling will not, we believe, be merely on a line with other reforms. It will be more than any timeous. We have always held that it was a factor which must be taken into account, in any thorough-going peace propaganda. Bridge over the speech barrier, silence the discords of Babel, bring the peoples of different nationalities into the intimate relationship of the spoken word, and you have gone one more step or two on the path of universal brotherhood. "I fear him I do not understand. I hate him I fear," says an Eastern proverb. In a sentence we have the root of the matter, the origin of the inhuman passion of hate.

How far does spelling interfere with the rapid acquisition of a language? I reproduce

only the testimony of a people who have no mean reputation for alertness of mind. "My Japanese friends," said Lord Bryce in his presidential address at the Imperial Conference of Educational Associations, "asked me 'Why in heaven's name don't you improve your spelling? Your spelling is the greatest difficulty in the way when we try to teach English. Until you pronounce as you spell, or spell as you pronounce, it is for some of us an immeasurable, for many an insuperable, difficulty.'" Such instances could be multiplied indefinitely.

We have already in the list of names appended to our petition some of national and European fame. Among them we may mention: Professor Gilbert Murray, LL. D., D. Litt., F.B.A., the Right Hon. Sir Frederick Pollock, Bart. LL. D., D. C. L., Vice-Chancellor Michael Sadler, C. B., LL.D., the Right Reverend Bishop Welldon, Mr. J. L. Paton, Mr. H. G. Wells, the Reverend Professor W. Emery Barnes, D. D., Mr. William Archer, M.A., Professor Walter Rippmann, M.A., Mr. Daniel Jones, M. A., Mr. Harold Cox, Sir James Donaldson, LL. D., Sir Frederick Bridge C. V. O., Sir William Ramsay, K.C.B. But we want the inarticulate multitude too. We want the teacher in the country school, struggling with his own special difficulties as well as the Professor, who perhaps has a wider outlook, but has less intimate knowledge of the one particular patch of ground. We want to confront the Board of Education with the testimony of those who carry out its desires—that a reform in spelling would enormously simplify educational work among all grades of teachers. Already the Board has issued directions for the pronunciation of Latin. Is it impious to hope that it may turn its atten-

tion to the more vital matter of the spelling of English?

We had not counted even before there was any thought of war on being able to present our petition before the spring of next year. Now it may be even longer delayed, but presented it will be. Meantime, we appeal to teachers to help us in the matter by signing the petition through the National Union of Teachers and the Assistant Masters' Association branches, whose Secretaries have all been supplied with copies, or by writing direct to the office at 44, Great Russell Street, London, W. C., where they will be supplied with a copy and stamped addressed envelope.

The petition does not commit signatories to approving of any specific scheme of reform. We call it a children's charter, but it is a teacher's charter also.

THE NEED FOR GOOD HAND-WRITING.

Mr. Editor:—I believe you will not grudge me some space in this highly valuable Journal to write upon a subject which, I think, should engage the attention of right-thinking men considering the several evil influences at work as regards the Hand-writing of our youths.

In these busy days of noisy Typewriters, perhaps, no serious thought is bestowed for writing a good hand. But it may be urged that instruction on the typewriter is not usually begun till the pupil has reached at least the age of 14-15, and by that time, if there has been anything like ordered and systematic instruction, a good style of penmanship should have become fixed. At any rate the foundation for good penmanship must

be laid early, when the muscles and bones of the hand are supple and can be easily trained to the necessary movements, as, later, the muscles become more set and are less easily induced to perform the free movements required. Its importance cannot be ignored considering the vast part it plays in the business world. It is the chief requisite for a business man, a commercial clerk, an accountant, a quill-driver and so on. To write a good hand is a qualification which stands apart from all others, for it does not come in with education or by theoretical study. It is, I should think, a matter of gift though constant drilling makes it perfect. But still much depends on practice and the method of improving it. Hence it is well worth our attention to say a few lines as to the manner of acquiring it and to see of what use it can be in after life.

Many different styles of writing are in vogue. In Arnold's copy books the writing is upright and has a rounded form. In American copy books the writing slopes much towards the right: Ladies' writing, on the other hand, slopes towards the left. But, I think, it is better to follow the first style of writing. It has to be cultivated as an art and during youth this should form the first attention. The copy books should be written slowly and steadily every day finishing each number and proceeding to the next. The same number will have to be written twice or thrice if considerable improvement is not noticed. The student should pay particular attention to the size and shape of the printed form and write accordingly. It is not necessary to write a whole page of the copy book daily. Three or four lines a day written well with care will show much pro-

gress in his writing. Further, transcription notes should be written every day. Improvement also depends to a great extent on the method of holding the pen. So it is very important to see that this is done. In this connection it may be said that, as civilisation advances, fountain pens have largely come into use. I should say that the mania for them now-a-days proves a bane in the path of progress. Even very young boys discard the use of quills and take up fountain pens. As every one knows, there are different varieties of these pens, good and bad. The use of stylo pens, especially, is very detrimental to the formation of good hand-writing. In olden days students used to write with quills on rough papers following the copy forms set by the teacher. There used to be also separate teachers for the Hand-writing classes who used to be very strict as regards the pupil's task. No such severe restriction seems to be imposed now. It suggests to me that the Educational authorities will do well to prohibit the use of fountain pens of any kind up to a certain stage, at least in Secondary schools. The advantages of such a course will, I am sure, be incalculable.

It is necessary to secure the services of the best teachers available for teaching the Hand-writing classes. As far as possible a single teacher should be in charge of the same. He should write the printed form in the copy-book on the black-board specially designed for the purpose showing as he proceeds step by step the way of writing it. It should also form part of a pupil's duty to write a few lines of copy forms at school, and the exercise should be corrected by the teacher, no trifling mistake escaping his attention. Either at school or at home a strict and rigorous rule

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should be laid down as regards the neat and right method of writing. The teacher should take a great care to see that pupils are guided properly. I cannot do better than draw attention to the directions given inside the cover in Arnold's copy books which I quote in full here:

"POSITION IN WRITING"—I. *The Body*:—Sit in a natural and easy position, not quite erect, and not leaning over the desk or table to any great extent; especially keep the chest from touching the edge of the desk. The spine must not be twisted, and the feet should be placed firmly on the floor.

Do not keep the elbows close to the side, nor twist the wrist. The palm of the hand should be so held that the writer cannot see it.

II. *The paper*:—Place the paper so that the part which the pen is to touch is exactly in front of the right shoulder, that is, to the right of the body. The front edge of the sheet should be parallel with the front edge of the desk, and the sheet should be moved upwards as the writing proceeds.

III. *The pen*:—Hold the pen easily between the thumb and two fore-fingers; the third finger is curved in towards the palm. Keep the tips of the fingers from touching the nibs. Do not write with the side of the pen; both points of the nib must press evenly on the paper. The pen must not fall below, nor rise above the knuckle. The thumb must be bent. The tip of the fourth finger touches the desk. The second finger is by the side of the pen, neither on it nor below it. A line joining the first and second knuckles would be very nearly horizontal." If facsimile forms of good hand-writing are available, it is better to have a look at them and imitate them if possible.

Many forces are at work to spoil good hand-writing. The hands of a professional typist, who sits from morning till evening, or the telegraphist, who works seven or eight hours a day, are apt to become shaky in the long run with the result that the writing is spoiled to a great extent. But still cases are known where bad hand-writing has turned out to be good by constant and regular exercise. In fact it is very charming to look at a well-written manuscript in which proper attention has been paid to neatness and accuracy. Really it gives very much pleasure to behold one writing with ease and grace. The reverse also happens sometimes when good hand-writing tends to become bad owing to carelessness and indifference. Some in high position, who naturally write a good hand, make it a point to write illegibly so that their subordinates have much difficulty to decipher what has been written. In an amusing story related once in *The Daily Chronicle* Sir Henry Irving wrote a letter dismissing a subordinate who with difficulty deciphered it and used it as a free pass to the Lyceum for years! Of course there is no necessity for the writing to have a flourish and a tail, but it should be legible and good and neat. In former times a false notion seemed to have gained currency in some quarters, either here or elsewhere, amongst the higher classes that to write a good hand was not becoming them. They thought perhaps it was only befitting the clerks to do so. It was even thought that bad hand-writing was in itself a laudable distinction, affording evidence of exceptional mental ability. It seems the fashion has changed now and all such ideas have vanished.

Good hand-writing is, as it were, a priceless gem worthy to be treasured and to feel proud of. It inspires confidence in any one who looks at it just as much as bad writing tends to create suspicion in some cases. I hear in a certain Municipal office there is a clerk who copies drafts sent to Government in his own hand-writing which looks like print. The need of both Typist and Typewriter is not felt there. But it does not mean that the use of the typewriter is to be discouraged. Again I think there is a clerk in a Government school who writes a very good hand. Instances can be multiplied to show how much good hand-writing is liked by superiors. Especially for a clerk, who serves under a great master, it is an important accompaniment to his other qualifications as it will very much advance his position. Though he may be a fast typist, circumstances may arise when he will have to write with his own hand. His employer will be very much pleased with him if he writes well. There is just as much difference between a fast typist and one who writes a good hand as there is between playing a certain note on an instrument and singing it vocally. The one will have to depend always on his machine or his instrument and the other is free to call into action his hand or mouth at any time. Perhaps the comparison may not be very appropriate in all details, but still I think it serves our purpose. Again for Ledger-keepers and accountants it is essential to have good hand-writing as the figures should be neat, legible and clear. Exercise on figures is also absolutely necessary from the very beginning as any slovenly work in accounts or over-writing will give room for suspicion. In some advertisements it is specifically stated

that good hand-writing is an essential qualification and that candidates should write their applications in their own hand-writing. In some others perhaps it is implied. In short, good hand-writing so much fascinates the eye that good posts are secured; further it elevates one in the estimation of all that the person becomes an object of interest. It has a special value all its own. It is really a piece of good luck to have it.

It may be said to a certain extent that the hand-writing shows the man his character and the like. Sometimes, why even generally, a man is judged by his hand-writing and the estimate formed is, I think, mostly true and accurate. I leave it to our readers to judge how far this is true; but, still the opinion thus formed may not, at any rate, fall far short of the mark. I think it is quite a natural and essential adjunct for one in high position to have good hand-writing; otherwise the first impression on looking at a page of his written matter is not very favourable, however supreme his other qualities may be. If great men are to suffer from such a disease, much worse should be the lot of those who have yet to rise. I think it should be the invariable rule that a certain percentage of the marks should be assigned for good hand-writing and neatness of execution in all examinations. But then the complaint will be that it is a very hard and fast rule to put into practice. Here it should be urged that, if the case holds good in certain examinations, it should also be likewise in others. Further, as a defence it may be argued that those who write a good hand should not lose their claim to the extra marks, and so should take advantage of the special minimum fixed for hand-writing. Hence it behoves one and all to concede to this

request. When it is said that one should have a knowledge of the three R's, I think as much attention should be paid to Writing as to Reading and Arithmetic. I doubt if the title of this article should rather be "The Teaching of Hand-writing in Secondary Schools" or for the matter of that "in all schools." It is a matter for congratulation that Business Hand-writing and Composition classes are held daily sometimes, or thrice a week at any rate in the Government School of Commerce, Calicut, to impart instruction in writing and composition. There is a double advantage in holding such classes, for they aim at giving instruction first on the formation of good hand-writing and secondly on the proper method of letter-writing. The teacher has to write on the board a full letter showing the salutation, contents and subscription in their proper places paying particular attention to hand-writing. Incidentally it may be said, though it is a piece of digression, that the composition classes also are bound to contribute towards the improvement of the boys in various ways if judiciously used. Our thanks are largely due to the Headmaster of the institution who is taking such a keen interest in the welfare of the pupils entrusted to his care.

The Hand-writing and Dictation Test which was the *sine qua non* for entering public service some years ago was, I think, not a very sure test. Even those with good hand-writing had to wade through it, as if in a mire, till they got out of it, and unfortunately the chances of confirmation of their posts depended on this. Happily this was abolished sometime back. Though it is not now recognised as a test for entrance into public service, yet in practice officers who have the power of selection generally go in for candidates

with good hand-writing. Men with good hand-writing should be given preference to others. This will give them much encouragement and heighten their other qualifications if any. To their great misfortune, it is only casually that those who write a good hand have been shown any consideration over others. Many with inferior hand-writing have gone far ahead of their rivals. It is a deplorable fact and it is also too important to be lost sight of. I think a surer and safer test may be found from the applicant's own hand-writing. It does not mean that those who write a bad hand should be shunned but it will be a lesson to the younger generations to take care of their writing. In the Indian Civil Service examination a great value is attached to hand-writing. Sometime ago it was published in the papers that a very brilliant candidate failed to get selection purely owing to bad hand-writing. Consequently he had to choose another walk of life.

It may be useful to start associations both among teachers and students having for their object the formation and improvement of good hand-writing. It may be a part of the duty of such associations to criticise and point out the faults of the different kinds of defective hand-writing. In the class-room or in the correction of exercises the student only knows his own defects. But it will be a useful lesson to him if he is also aware of the defects of others as it will safeguard him in the future from errors of such a kind. The object of the teachers' association is to comment upon and criticise the hand-writing of the pupils entrusted to their charge individually and to arrive at a uniform mode of writing. Besides, general associations also may crop up to discuss about this important subject. It may be thought there is no need for such associations; but still I would persist on such a course

being taken if the improvement of the hand writing of our youths is in view.

It is hoped in conclusion that good hand-writing will have its merit recognised throughout and will win the laurel and esteem, it ought to get.

B. S. RAMASWAMI AYYAR.

YOUNG INDIA.

PROJECTS OF UNIVERSITY REFORM.

The following article appears in the *Times* Educational Supplement:—

The unhealthiness of the state of things which we have attempted to describe in the preceding articles is not unfelt in India. It is perhaps natural that it is among the English that the dissatisfaction is deepest. The Indian of the University class can scarcely be blamed for not perceiving the radical deficiency of the system under which he was trained a system which, moreover, appears to give him a position of much political strength. He has scarcely yet realized that the character of the training thus afforded is impoverishing the best brain power of India, and by its weakening effect upon individuality and independence of mind is disqualifying many men from taking an effective part in the service of their country.

But even the Indian of the University class feels that the best product of the Indian University system cannot compare with the product of European Universities; and, if he possibly can, he sends his son to Oxford or Cambridge after he has graduated, not to do advanced work, but to go through, from the beginning, an undergraduate course. By so doing he admits that India is unable to provide the highest kind of University training. It is discreditable that this should be so. And it is very unnatural and unhealthy that there should be so large a drain of Indians to the English Universities. That a few

picked men should come for special work is natural—as natural as that a few Americans or Frenchmen or Australians should come. But it is not natural that a sojourn in England should afford to Indians the only chance available of any education of the highest type.

THE SPIRIT OF RESEARCH.

In another respect dissatisfaction is felt. This is an age which talks much about research, we are perpetually proclaiming that a University is not worth the name unless it is making additions to knowledge. The Indian Universities have produced extremely few scholars capable of conducting original investigation, and these few have mostly been subsequently re-educated in England or Germany. Of course this is inevitable. The whole spirit of the Indian Universities is hostile to the very idea of research of independent and critical investigation. You do not gather grapes of thorns or figs of thistles. Indian opinion feels that the Indian Universities should be in the fashion, and therefore should conduct Research, with a capital R. But Indian opinion scarcely realizes that Research is not a sort of ornamental superstructure on an educational building, but is the very root and spring of University's life; that no additions to knowledge can be expected from a system which is not permeated from beginning to end by the spirit of inquiry and criticism; that it is the spirit of Research which matters, and not its mere results. Accordingly Indian (and Anglo-Indian) opinion is inclined to the belief that the deficiency can be remedied without any very radical changes by the simple device of buying a few bunches of grapes and figs and tying them on to the thorns and thistles.

The air is full of projects of University Reform. These projects take two forms: the strengthening of the existing Universities and the foundation of new Universities on different principles. We shall deal with these two groups of projects in turn.

REFORM OF EXISTING UNIVERSITIES.

The beginning of the reform of the existing Universities was marked by Lord Curzon's University Act of 1904, which for the first time not merely empowered the Universities, but suggested that it was their duty, to conduct teaching themselves instead of leaving it wholly to the colleges, and in particular to carry on higher work. But in these respects the Act remained, until recently, a dead letter. In the last two or three years, however, and more actively to-day than ever, attempts are being made to realize this ideal, mainly under the impulse of Government, which has supplied the Universities with substantial funds for the purpose. No University, indeed, has attempted to undertake under-graduate work; that is still wholly left to the colleges, and the Universities are striving to find independent spheres for themselves elsewhere.

In the first place, each of them has started a University Library, open to all students. The libraries are as yet very exiguous, but they form the beginning of a real corporeal existence for the Universities. It may be noted that the existence of these libraries adds to the advantage already possessed by those colleges which are situated in the University town, and renders more apparent than ever the deficiency of the *mofussil* or outlying colleges.

In the second place, some of the Universities have been to undertake teaching for the post-graduate degree of M. A., and there is a growing belief that this forms the true sphere of University as distinct from college work. The M.A. course usually extends over one or two years, and is supposed to correspond in content to an Honours degree of an English University, though, in point of fact, it includes much less intensive and critical study. The M.A. teachers of the Universities are in some cases college lecturers recognized for this purpose; in other cases specially appointed. But no clearly defined

system has yet been established, and it cannot be said that the bulk of the M.A. teachers so far appointed are in any sense superior in quality to the teachers of the better colleges. The theory that M.A. work ought to be cut off from B.A. work, and done by different people, is a very dangerous one. It rests upon the fatal assumption that the B.A. work may safely be left to second-rate men. The limitation of M.A. work to the University is therefore not to be regarded as a valuable advance; rather it emphasizes the weakness of the college teachers; and it leaves the root problem of the improvement of under-graduate instruction quite untouched. No doubt it is true that it would be better for M. A. students to work in a place where good libraries and good teachers are accessible. But this is not more true than that it would be better that B. A. students should work under such conditions. If the colleges are not capable of doing M. A. work, it follows that they are not capable of doing B. A. work, for the earlier years of a student's career are in many ways the most important.

TWO FORMS OF WINDOW-DRESSING.

In the third place, several of the Universities have invited scholars of distinction from Europe to deliver short special courses of an advanced character; and in some cases, also, to advise upon the general treatment of their subjects. These special visits are necessarily costly. Not only are the travelling expenses heavy, but the remuneration must be sufficient to provide substitutes for the visiting scholar in his own University. The courses which are given by visiting scholars have generally no organic relation with the scheme of study of the University, and as the Indian student's mind is wholly concentrated upon his examination, the lecturers seldom obtain large or very attentive audiences. Sometimes their discourses are of such a character that few of their hearers can understand them. No doubt the presence of such visitors

forms some kind of stimulus to better things, by showing what University work of the highest kind really is in other countries. But it swallows up far too much money for the direct results which it produces. It is difficult to resist the conclusion that there is too much window-dressing about these courses, and that in the present state of things in India the money could be much better spent.

Finally Calcutta, Madras, and Allahabad have established several University Professorships. If the holders of these posts were to be encouraged to take some part in under-graduate instruction, and to help to put it on a sounder basis, this development might lead to a real advance. But apparently they are not to do so, perhaps because it is "not fair" that the Colleges at the University centre should have an advantage which the *mofussil* Colleges do not share. Whatever the reason, it is proclaimed that the primary function of these new professors is to be the conduct and direction of research. They are to conduct research *in vacuo*, without libraries or materials; they are to direct the research of probably non-existent students; for there is small sign of the existence in India of any substantial class of young graduates eager to devote themselves to the advancement of learning, and some think her in order to give the professors something to do it will be necessary to bribe young men by salaries comparable to those which they would earn in Government posts. On this basis the foundation of these professorships contributes nothing to the solution of the real problem. It is essentially a piece of window-dressing, a tying of bought grapes to the branches of unfruitful thorns. In short, there appears in all the projects of reform which apply to the older Universities little prospect of a cure for the defects we have described.

THE PROPOSED NEW UNIVERSITIES.

In the proposed New Universities there is more hope. Let India once see what a real Uni-

versity is like, once realize what a real University training can do, and a few years a demand for reform will replace the present satisfaction with the old system. It is promising that everybody agrees that the New Universities must be in the fullest sense teaching Universities, and that is something gained. The proposed New Universities include one at Dacca for Eastern Bengal, one at Patna for the new province of Behar, Orissa, a Mahomedan University at Aligarh, based upon the famous Anglo-Oriental College, and a Hindu University at Benares, based upon the Central Hindu College; there is also some talk of a University for the Central Provinces at Nagpur, but there appears to be a danger that this will be of the old pattern. Of these five the first two are Government proposals and are to be financed by the State; the Mahomedan and Hindu Universities are to be more independent bodies, and the money required for their establishment is being raised among the two religious communities. There is a broad distinction between the proposed schemes for these two groups, and they must be treated separately.

THE "MULTI-COLLEGE" TYPE.

The scheme for the Dacca University has been approved and issued. The scheme for Patna has not yet been finally approved, but except in one important particular, it closely resembles the Dacca scheme, and, indeed, was drawn up by practically the same group of people. The main features of these schemes are that in each place there is to be a cluster of Colleges, residential in character and designed for different types of students; that each College is to have a full teaching staff in the Arts subjects, and is to be responsible for the tuition of its under-graduate students, though this will be in part met by intercollegiate lectures; that science teaching is to be given in University Laboratories; and that over and above the College teachers there are to be a number of University Professors, who will not be troubled by under-graduate work, but

will devote themselves to M. A. teaching and to the conduct of research. Thus the latest theory about the differentiation between the spheres of the University and the College, which we have seen showing its cloven foot in the older Universities, here appears naked and unashamed. In the Patna scheme the vicious corollary is added that there are to be affiliated Colleges throughout the Province which will undertake the full Degree work in the old style. At both places several new Colleges are to be deliberately created, at great expense, in order that the "Multi-College type of University" may be realized.

It is easy to see what is the inspiration of the authors, or perhaps one should rather say the author, of these schemes. They are obviously the work of some one who knows no other type of University than Oxford and Cambridge, and never stops to think that the character and working of these ancient Universities are essentially irreproducible, especially in such alien conditions as those of India. He remembers that in Oxford the bulk of under-graduate tuition was given by College tutors; that they supplemented one another by means of an inter-collegiate lecture list; that the patriotism of College was in Oxford stronger than that of the University, and the rivalry of Colleges one of the most marked features of Oxford life; and that there were august and remote people called University Professors whom the under-graduate never saw. All this they propose to transfer from the Isis to the Ganges with the minutest fidelity.

THE OXFORD TRADITION.

Indeed, it is laid down in the Dacca report that the "Multi-College" University is the only type seriously worthy of imitation; the single-college type, which to the authors of the report clearly conjures up visions of barbarous new-fangled institutions in English provincial cities, they definitely condemn. They appear to be unaware that in doing so they are condemning

all the Universities of the world except Oxford and Cambridge—Edinburgh and Glasgow, Munich and Leibzig, Harvard and Yale. And they are evidently equally ignorant that it is just the features of Oxford and Cambridge which they propose to imitate which are now the objects of the most incisive criticism on the part of University reformers in England—the control of under-graduate teaching by the Colleges, the exclusion of the best scholars of the University (its professors) from direct influence upon the work of under-graduates, and the rivalry of Colleges in regard to examination successes. There is scarcely a teacher of repute in Oxford who would not admit that if Oxford were free of her traditions some modification on these points would be desirable. Yet these very points are to be the distinguishing features of the latest British invention for the training of Indian youth. If these features of collegiate control of instruction and the divorce of higher or “professorial” from lower or under-graduate work are mischievous in Oxford, where they are counter-balanced by a tradition of learning, how much more mischievous are they likely to be in India, with its vicious examination-ridden traditions. To the student in a Dacca College the examining authority will be just as much more important than the teacher as it is under the existing system. For the various Dacca Colleges, as for the existing groups, the same elaborate University regulations, hampering “Lehrfreiheit” will be necessary in short; and existing evils will be reproduced in a modified form. No doubt it may be desirable that there should be various residential Colleges or halls for the use of different groups and types of students. But that forms no reason why, in a new University founded in the 20th century, the control of teaching should be deliberately taken out of the hands of the University as such, in defiance of the universal practice of all modern Universities in all countries.

DEFECTS OF THE SCHEME.

From a scheme inspired by this kind of stupid and self-satisfied ignorance not much is to be hoped. The only advances shown by the Dacca and Patna schemes are (1) that a good deal of money is to be spent on teachers and equipment—far more than is necessary owing to the waste involved in the overlapping of a collegiate system; and (2) that teaching work is to be contracted in one place, and the Colleges are not to be absolutely watertight. But even this is sacrificed in the Patna scheme by its provision for affiliated Colleges on the old model. It is noteworthy that in both schemes far more money is to be spent on playing fields and the like than on libraries. But the greatest defects of these schemes still remain. In the first place no attempt is to be made to improve the quality of the students admitted to the University; in Dacca it is actually proposed to accept not only the Calcutta Matriculation—the worst of all Indian entrance standards—without any qualification, but also the Calcutta Intermediate, a provision which renders it impossible to modify the existing system in the crucial early years of the students' course. And in the second place the imposition of a rigid and detailed set of instructions upon the teachers is to be carried even farther than in the existing Universities. Instead of finding good teachers and leaving them to work out a scheme of instruction, this enlightened and omniscient committee, knowing beforehand better than the specialist teacher how his subject should be handled has laid down the curriculum (in parts very foolish one) with such detail that in some cases the precise number of hours to be devoted by the teacher to each part of his subject are actually specified. If the Dacca scheme and (still more) the Patna scheme as they stand are carried into effect no doubt some good will be done, because much money will be spent on educational equipment. But most of the money will be wasted, because nothing will have been done to remedy the essential defects of the Indian University system.

EDUCATION IN THE MAGAZINES.

(INDIAN.)

Physical Culture, by Mr. B. N. Sarma.

The Hon'ble Rao Bahadur B. N. Sarma delivered an interesting lecture on “Physical Culture” to a crowded gathering, at the Hindu High School, with Mr. R. Littlebailes, Deputy Director of Public Instruction, in the chair.

He thought that young men and others of the Presidency should direct their attention from time to time to the physical well-being of themselves, because he could not help remarking that, so far as the Hindu portion of the population was concerned, the subject of physical culture was sadly neglected. The present juncture was also a very appropriate one, inasmuch as it drew their attention prominently to the need for their physical frames being so knit together as to be fit for any amount of fatigue to which they might be exposed, whether it be in war or whether their system was engaged in peaceful pursuits which no less shattered the system. The subject had been forcing itself upon his mind for many years, and especially he had been watching young men who had joined the bar and other liberal professions, and he found that those men were occasionally inconvenienced in following their professions owing to ill-health, lack of vigour, lack of strength and lack of the necessary stamina to be able to stand the fatigue of a protracted struggle in life. Those brave Indian warriors who were defending the Empire had shown that the best of the Indians were able to hold their own with the best of the men of the Western nations, but there was a lingering fear that all was not well while the whole nation was considered from the physical point of view, or where the educated community was considered by itself. In England and Europe fears were expressed that there had been a physical degeneracy, and luckily for them a commission which sat to enquire found that, far from there being degeneracy, there had been an improvement in the physique of a Britisher. It was hoped that a similar enquiry would be instituted in India and that similar results would be found here also. He could not help saying that some of the classes in India, especially the educated classes, had not been able to stand the shock of competition as well as might be desired. There were various causes at work for such a condition of affairs. Plague, cholera and other diseases carried away millions of the population, and there was much to be desired in the way of sanitary improvement.

“SINGLE-COLLEGE” PROPOSALS.

Of the Benares and Aligarh proposals it is as yet too early to speak, for they do not seem to have approached maturity. But, to speak broadly, it appears that the models after which they are to be organized are the “Single-College” Universities which the Dacca Committee despises, but which have done some good work in Scotland, America, France, Germany, and elsewhere. There will be a real centralization of teaching; the best brains of the University will be permitted to take part in the instruction of the under-graduate; and examination, since it will always follow teaching, will fall into its due subordination. These points after all constitute the root of the matter, so far as organization is concerned. And if Aligarh and Benares can establish Chairs well enough endowed to attract really good scholars, and will face the very large expenditure necessary to bring their libraries and laboratories up to the pitch required for real University work, they may succeed in becoming places of learning that will set a standard for India. But the “if” is a large one, the temptation to starve the essentials—teachers and teaching equipment—for the sake of the luxuries and adornments of University life may prove too strong. And the particular danger which seems more especially to threaten these projects is that the lay committees of Indian gentlemen who have to raise the necessary funds may be unwilling to part with the power of interfering in academic details which (at any rate at Aligarh) they have hitherto been too prone to use. They may not be able to bring themselves to grant to their teachers security of tenure and absolute freedom of teaching; especially they may be unwilling to allow to a purely academic body what in any soundly-established University such a body must possess—the effective control of programmes of study, examinations, and the award of Degrees.

Such are the projects of University reform at present under consideration in India. For the most part they are disappointing in character; they do not attempt to go to the root of the matter; and we shall venture in a final article to add to our hitherto purely destructive criticism some indication of the way in which, as we think, this vital problem might be attacked.

The human frame had been dilapidated owing to various causes. One cause, to his mind, which was common to the average man as well as to the student was that the system did not get that nourishment and rich food which was necessary to withstand diseases. Even in such a rich country as England legislation was found necessary to help poor boys to stand the strain by boards providing food for young boys whose parents were not able to provide a nourishing meal; and what was found necessary in England would be found much more necessary in India. He was of opinion that poverty was responsible for a good deal of the physical degeneracy and ill-health of the young men and women in this country.

The lecturer then dealt with the evils of early marriages and observed that physical deterioration was due to the pernicious custom of infant marriages in India.

In conclusion, Mr. Sarma observed that the old ideas regarding physical exercise were fast disappearing, and he hoped that parents would encourage sporting instincts in their children. They must try and avoid the anxiety to do well in examinations, and they should revert to the old systems and methods of life modifying those rules and observances by reference to the present conditions of life, and so combine the East and the West on healthy lines.

The Chairman in thanking the lecturer for his interesting discourse wound up the proceedings with a few remarks, in the course of which he said that, in order to acquire and maintain a healthy mind, they must initially maintain their bodies in a healthy state. The education that students were now receiving had, he presumed, as one of its main objects that they should be made men in its widest sense. The tendency during the last few years was to pay more attention to physical culture than used to be the case formerly. The facilities for providing game in the immediate vicinity of a school were not much, but the disadvantage of acquiring playgrounds in Madras was great, and that was a matter that was receiving the attention of the people most concerned. The boy who would grow up into a perfect man was he who paid due attention to his physical welfare and in doing so did not run to excess in one particular way or in another particular way.

Accident in History, by Mr. S. Satyamurthi.

Before the Teachers' College Historical Association, Saidapet, Mr. S. Satyamurthi delivered a lecture on "Accident in History" with Mr. S.

Srinivasa Iyengar in the chair. The lecturer stated that accident played a very large part in the history of the world and that it could easily be otherwise, since accident played a large part in the lives of individuals also. He illustrated this thesis by examples from the history of England and of India. He said that the greatness of England both externally and internally was due to a very large extent to a chapter of accidents and that the foreign conquest of India by one conqueror after another was also due to accident. The birth of great men and the origin and development of some religious and social movements were also the results of accident. At the same time the lecturer warned his hearers against believing that accident held any undisputed sway in human affairs since accident was to a large extent conditioned by other circumstances. He was also anxious that his hearers should study history from a fresh standpoint. He concluded his lecture by exhorting the audience to give up the idea that history was a mere chronicle of events and to lay more stress on a critical study of history. It was a mistake to suppose that the past of India was either ideal or was very bad. It was necessary for them to criticize and to form their own judgment.

The Chairman complimented the lecturer on his interesting and instructive discourse but differed from him as regards the scope of accidents in history.

"Value." by Mr. James.

Principal James of Presidency College, Calcutta, delivered a lecture on 'Values' at a crowded meeting of students at the University Institute, Professor Coyajee presiding.

At the outset the lecturer deprecated the intention of trespassing on the field of economics. The values of which he was to speak were life values. He began by showing the practical need of a scrutiny of values, because the views of most people were haphazard and often conflicting. This appeared from an actual comparison of the very diverse object to which regard was paid. Religion was, it is true, final for those who accepted the answer of their religion and acted on it; but experience showed that in practice great uncertainty of aim still remained. Many attempts had been made to solve the problem of relative values. One of these was Aristotle's. He reached the conception of a type of life as the supreme end, a life on a high spiritual and moral plane. There was no single and simple catchword to describe the master-end, but rather a system of ends with a higher co-ordinating

principle. This, at all events, had the merit of answering to the complexity of ends found in practice. The lecturer proceeded to try whether a provisional and working solution could be reached on this basis. Was it possible to discover an 'Order of value of values?' He found that to a considerable extent it was so: health, education, success, birth, rank, were all ends having validity within their proper spheres; yet not one of these could claim to be the end of supreme value. It appeared that an estimate of the value of success of birth of rank all rested upon character. The lecturer then went on to test the claim of 'character' to be the supreme end and reached the conclusion that in the doctrine of character as the object of supreme value not only was an answer found which satisfied the conditions of the inquiry undertaken, but also one which offered the best solution of all the deepest problems of speculation. Pain and evil and all the perplexities of history took on a new meaning if it were laid down that the evolution of character was the secret end of the world process. Finally the lecturer pointed out that a vast number of other objects of value had to be taken into the account on the objective side—though character in its strictest and sternest sense was the highest of all—and that the most precious of these were just those that could be obtained without money and without price—beauty in all its forms, the delights of literature, history, music, painting, architecture, science.

Elementary Education in Travancore.

The Hindu writes in a leading article.—If ever a discussion between two contending parties disclosed how near they were, after all, it was the full dress debate on the Elementary Education Bill introduced into the Travancore Legislative Council by Mr. P. Kesava Pillai in September last. A perusal of the report of the full discussion, which has just been published in the State's *Gazette*, also shows that the essential principle on which all were happily agreed was allowed, however, to be shelved, owing to their inability to agree on the point of finance. The question of free and compulsory elementary education in the State is some years old, and since the time, now two years ago, when Mr. Pillai asked for leave to introduce the Bill, a good deal of support has been extended to the principle of compulsory education. As a matter of fact, there appears to be no disagreement as to the advisability of the measure and the Durbar stated, some years ago: "The desire expressed to make primary education free and to make it compulsory has the

complete sympathy of Government. Unless we are prepared to make primary education free, we cannot make it compulsory. That being the state of affairs, all that I can tell you is that your suggestions will be borne in mind as ideals to be achieved in due time." Since the time this assurance was given at a sitting of the Popular Assembly, primary education in the first three classes of the schools in the State has been made free. It was, therefore, that the promoters of the Bill, considering that the first step towards the attainment of the ideal had already been taken by the Government, approached the Legislative Council and sought its approval to a Bill, which was permissive in character, allowing the State to introduce the system of compulsion when and at places it thought fit, and which was modelled on the Mysore Act. There are other favourable circumstances in Travancore which indicate that the introduction of the principle will be attended with good results. It would appear that the complaint in Travancore is not of the parents, who refuse to send their children to school, but of the State which is unable to meet the demand for accommodation. The problem, as a Member of the Council put it, was not one of the necessity "of a provision to force all children; who are eligible, to attend school, but one that would compel some of them to abstain from school till more schools are provided." This eminently satisfactory condition of things only makes the duty of the State all the clearer, and that is to start more schools as early as possible, and it is evidence also that compulsion is not likely to rouse any formidable protest. Again, in point of literacy, the fact appears to be that while it is only 5.8 per cent. in British India, 6½ in Mysore, 10 in Baroda, it is as much as 15 per cent. in Travancore. The literacy of males is 25 per cent. in Travancore, 16.6 in Baroda, 13.7 in Madras, 11.1 in Mysore and 10 per cent. in the whole of India. Again, the percentage of the number of pupils under instruction to the school-going population is stated to be 55 per cent. in Baroda, and 50 per cent. in Travancore, Madras and Mysore claiming only 23.1 and 18 per cent. respectively. These facts undoubtedly show that the Travancore Government have in the past been very anxious to promote mass education and that a fair measure of success has attended their efforts. And the further fact that Travancore spends 11 per cent. of its gross revenue on education, while Mysore and Baroda spend only about 7½ per cent., furnishes matter for satisfaction. But these gratifying features do not point to the conclusion that compulsion

is not required in Travancore, and it is pleasing to know that, far from urging such an argument, the Official Members who opposed Mr. Pillai's Bill, especially the Dewan, admitted that compulsion was a principle that should be introduced. But Government pleaded want of funds and told the Council that they could not agree to the Bill, because it contained no provision enabling the State to tax the people to the extent that might be necessary, if the measure was to be enforced and not be allowed to remain a dead letter. The promoters of the Bill frankly told the Government that people were opposed to any form of fresh taxation for the purpose and that, the duty of the State being clear as to the promotion of mass education by making it both free and compulsory, the Durbar ought to find the extra money from the ordinary revenues, by retrenchment and adjustment of expenditure. This view was, however, not acceptable to the Durbar, and we can understand their objections to burden themselves with a duty which they clearly saw they could not discharge efficiently without extra taxation. But their attitude towards the Bill, it must be said, was not fair. For having once accepted the principle, they owed it to themselves either to introduce the necessary changes in the Bill and make it an effective instrument whereby mass education could be made universal, or promise to produce an alternative plan, if they had any, which would help in the attainment of the object the non-officials as well as the Government had in view. We notice that the Dewan, in summing up the debate, said that the question whether compulsory elementary education should be introduced with fresh taxation, was not then under discussion. We should think, however, that it was precisely this point which was being debated upon, and we cannot, therefore but think that Mr. Kesava Pillai's Bill has been shelved on a very narrow ground.

THE UNIVERSITIES.

CALCUTTA UNIVERSITY.

There was a long and interesting discussion on the question of age limit for Matriculation candidates at the meeting of the Senate, held at the Senate House, Calcutta University, on the 21st instant. The Hon. Dr. D. P. Sarvadhikari, Vice-Chancellor, presided, and there was a remarkably large attendance of members and fellows.

Sir Gooroodas Banerjee, in introducing his motion, said no age limit rule such as the one in

existence in Calcutta was in existence at the Universities of Oxford and Cambridge, though the reply would be made that if such a rule was not in existence in theory it was in practice. One learned from Sir William Ramsay's biography of Lord Kelvin that the latter entered a University at the age of ten. Lord Kelvin was, of course, a genius, but at the time he entered the University of Glasgow nobody foresaw that he would become Lord Kelvin or even Sir William Thompson. "My motion", continued Sir Gooroodas, "does not ask you to commit yourself to any definite proposition." A rule like the one now in existence must, to justify itself, be necessary and desirable. Was it necessary? It was urged, it was necessary to prevent students ruining their health by undue study, that they passed the Matriculation examination and entered college without a sufficient knowledge of English, and also that under the age of sixteen they were not fit to undergo the hostel life necessary if they entered the University. The first reason so advanced was erroneous and exaggerated. Only a few, a very few, brilliant students would take the examination before the usual age. With regard to the second argument, admitting that students entered college without a sufficient knowledge of English, there was the same complaint now. The maintenance of the rule would not alter things. It could not be expected that students could gain a knowledge of English, by being kept back. As for the last reason, if a student of immature years did pass the Matriculation examination and asked for admission into the University the authorities could see that he must make his own living arrangements. "If they did this they would have nothing to complain of." The speaker continued to discuss the advisability of an age limit and proceeded: Then there is the anomalous consequence of a candidate, who passes a senior local examination, which does not impose any restrictions, being told he could not matriculate because he had not reached the required age. Such anomalies showed that the regulation was not desirable. Concluding, Sir Gooroodas again emphasised the opinion that the effect of his resolution would only be that some few brilliant students would pass the examination.

The resolution was seconded by Dr. D. N. Mallick, who said that the rule as it read was artificial and, as such, should be abrogated. If an artificial rule was introduced it generally resulted in serious consequences—sometimes consequences most serious than the ills for which it was framed to cure, and the serious consequences of

this rule had already occurred. In all the newer regulations of the English Universities the sixteen-year limit had been fixed, but it must be remembered that there a young man graduated three years after Matriculation, whereas in Calcutta the course was four years.

The Vice-Chancellor the Hon'ble Deva Prasad Sarvadhikari read the resolution.

Mr. Archbold, Mr. Turner, Mr. J. R. Banerji, Mr. H. R. James, Dr. B. N. Seal and others opposed the resolution, Mr. K. Banerji and Mr. H. L. Halder supporting the same. The resolution was then put and lost by an overwhelming majority.

ALLAHABAD UNIVERSITY CONVOCATION.

The annual Convocation of the Allahabad University was held in the University Hall. His Honour Sir James Meston, the Chancellor, presided, and there was a large and distinguished gathering.

The following programme was observed:—The members of the Senate, the Honorary Fellows and the Registered Graduates assembled at 2-45 p.m. in the Fellows' Room of the Senate House. On the arrival of His Honour the Chancellor and the Hon'ble the Vice-Chancellor, they formed themselves into a procession in the following order:—

The Registrar, the members of the Syndicate, the Vice-Chancellor, the Chancellor, the Honorary Fellows, the Ordinary Fellows and the Registered graduates. All were wearing their respective academic robes. After they had taken their seats, the Vice-Chancellor having obtained the Chancellor's consent, declared the Convocation open. Candidates for degrees were then presented to the Vice-Chancellor by the Principals of the Colleges at which they had studied, who admitted the candidates to their degrees. All the candidates having been admitted to their degrees, His Honour the Chancellor addressed the Convocation.

His Honour's address over, the Vice-Chancellor, with the Chancellor's permission declared the Convocation closed. The procession then left the hall in the same order in which it had entered.

After the Convocation those present went to the Law College buildings where the Vice-Chancellor was 'At Home.'

The following are the numbers of candidates from the various colleges who received degrees.



Female Candidates.

M.A.—One private candidate.

B.A.—From Isabella Thoburn College, Lucknow, 1; Woodstock College, 1; private candidates, 3.

L. T.—Government Training College, Allahabad, 1.

Male Candidates.

M.A.—Muir Central College, 5; Agra College, 6; M. A.-O. College, Aligarh, 8; Ewing Christian College, 3; Central Hindu College, 2; Morris College, 1; private candidates, 3.

B.A.—Muir Central College, 25; Queen's College, Benares, 11; Agra College, 22; M. A.-O. College, 53; Central Hindu College, 16; Ewing Christian College, 23; Bareilly College, 6; Christ Church College, Cawnpore, 6; Canning College, Lucknow, 29; Reid Christian College, Lucknow, 10; Meerut College, 25; Maharaja's College, Jaipur, 7; Government College, Ajmer, 1; Jaswant College, Jodhpur, 1; Canadian Mission College, Indore, 2; Holkar College, Indore, 4; Victoria College, Lashkar, 7; Government College, Jubbulpore, 16; Morris College, Nagpur, 1; Hislop College, Nagpur, 3; teachers, 9.

M.Sc.—Muir Central College, 6; Queen's College, 1; Canning College, Lucknow, 1; private candidate, 1.

B.Sc.—Muir Central College, 32; Queen's College, 2; Ewing Christian College, 2; M. A.-O. College, 2; Agra College, 12; St. John's College, Agra, 1; Meerut College, 1; Canning College, Lucknow, 1; Central Hindu College, 1; Holkar College, Indore, 1; Government College, Jubbulpore, 2; Morris College and Victoria College of Science, Nagpur, 3.

LL.B.—University School of Law, 86; Agra College, 25; M. A.-O. College, Aligarh, 4; Canning College, Lucknow, 2; Meerut College, 5; Morris College, Nagpur, 6.

L.T.—Government Training College, Allahabad, 19.

Reviews and Notices

THE LOTUS-POOL, BY MISS A. MARY DOBSON.
(THE OXFORD UNIVERSITY PRESS, BOMBAY).
8 As.

Every teacher of English in India has felt the need for verses on Indian subjects for use at least in the elementary classes. The teaching of English Poetry in the lower classes is often artificial owing to the strangeness to the Indian student of the background of life and scenery found in it. English nursery rhymes of Red Riding Hood and Jack the Giant-Killer can have no effect either on the imagination or on the understanding of Indian children and flowers like the daisy, or the cowslip or the blue-bell are little more than names to them.

Miss Dobson has supplied this long-felt want by a series of nice little poems on Indian subjects for children collected in this volume of the *Lotus-Pool*. There is quite a successful attempt at appealing to the aesthetic sense of the child, and enlarging the bounds of its imagination. The subjects chosen are such as are likely to be suggested to the child in its daily life and in its ordinary surroundings. And the treatment is quite suitable to the end in view, that of making one's intelligible to little children, preserving at the same time as many elements of good poetry as possible.

Quite an interesting feature of the poems is the presence in them of a large number of homely phrases and idioms with which the average Indian pupils in the lower classes are not familiar owing to their acquaintance with only the language of books. A reading of Miss Dobson's poems will enable the little boy or girl to speak English more correctly.

It is not with any wish to detract from the value of Miss Dobson's work, that we want to draw attention to one or two points in which it might have been better. It is by no means desirable to introduce the child to scenes of weirdness and terror, however impressive they might be as exhibitions of poetic imagination. Miss Dobson makes the child hear at night bats and beetles, owls and jackals—to teach such a poem to little children is to make them sleepless that night. We have only to contrast it with a delightful passage from Stevenson's *Child's Garden of Verses* to be convinced of the fairness of the complaint:

All night long and every night,
When my mamma puts out the light,

I see the people marching by,
As plain as day before my eye.
Armies and Emperors and Kings,
All carrying different kinds of things,
And marching in so grand a way,
You never saw the like by day.
So fine a show was never seen,
At the great circus on the green;
For every kind of beast and man
Is marching in that caravan.

There is no need, again, to introduce a child to such a terrible scene of famine as that described in the first of the *Songs of the Monsoon*. We are sure no child likes to read:

And the little children lie
By the grey road-side to die,
As with fainting lips they cry,
Give us bread!

We should be failing in our duty if we did not also point out it was an error of judgment to have included in it a poem on the *Angel of the Well*, the memorial to the English men and women massacred at Cawnpore during the *Great Indian Mutiny*. The poem itself breathes the spirit of calmness and peace and is one of the finest in the little volume, but the teacher cannot hope to explain it without referring to certain painful episodes in Indian History, which had better not be detailed upon to a class of children.

There are however throughout the books signs of her intimate sympathy with Indian scenery, life and thought and we have no hesitation in saying that Miss Dobson has laid the world of Indian Education under a deep debt of gratitude, by this excellent piece of work. We learn that the authoress is a daughter of that distinguished poet and critic, Austin Dobson, who is happily one of the survivors of the Victorian Era, still amidst us, and it must be a source of immense gratification to the poet that the touch of his genial kindness is being imparted by his daughter to little children in India.

THE THEORY OF POETRY IN ENGLAND, BY R. P. COWL, M. A. (MACMILLAN & CO., LTD.)
5s. net.

Mr. Cowl's book is intended to be a record of the growth of the theory of poetry in England from the sixteenth to the nineteenth century. We are afraid we cannot congratulate the author on anything other than the prodigious industry he has exhibited in bringing together numerous passages on the subject from almost every critical work

in English, published during this period. We are surprised that the editor has not thought it worth while to preface his work with a connected study of the development of critical theories of poetry in England—surveying the efforts of Elizabethan critics to widen their ideals of poetry by a study of the classics; the classicism of the critics of the eighteenth century who were only content to invoke gravely the authority of Aristotle and Horace and the consequent Romanticism of the early Nineteenth Century which expressed itself in a bold defiance of authority and a direct appeal to men's æsthetic sense.

We admit there is some use in having a handy manual containing extracts from the various attempts that have been made from time to time, to comprehend the somewhat elusive spirit of poetry, but we doubt the wisdom of having patches of critical effort, extending over a few lines, presented without any connection to each other except that of being related to the same subject. The student, again, is apt to be misled by the editor's want of discrimination in the choice of names and in the relative importance attached to them as illustrated in the number of extracts. It is amusing to see Mr. Cowl have more extracts from Thomas Rymer and from John Dennis than from Walter Pater, and give Matthew Arnold only very little more importance than either of the first two persons. We admit we have no patience with the critical professions of Rymer for we can never hope to forget his immortal judgment that "the neighing of a horse or the howling of a mastiff possesses more meaning than Shakespeare," and we really wonder which student of literature is anxious to know the opinion of such a critic on the subject of poetry! Macaulay called him "the worst critic that ever lived," and Prof. Saintsbury added: "Therefore for once, though no Macaulayan, I venture to indorse my important name on a dictum of Macaulay's. I have read several critics—I trust this book (*The History of Criticism*) may show sufficiently that this is no idle boast. I have known several bad critics from Fulgentius to Abbé d'Abuignac, and from Zola to persons of our own day, whom it is unnecessary to mention, but I never came across a worse critic than Thomas Rymer. (*History of Criticism*, Vol. II, p. 397). Again, while we are prepared to allow some attention to Dennis' *Remarks on Cato*, we find it rather difficult to take from him any judgments of Poetry in general.

Mr. Cowl's scheme lends itself unfortunately to a wearisome repetition of ideas and the occasional inclusion of inane and pointless remarks by fifth-

rate critics. Dennis was making no remarkable discovery when he said that adherence to good rules in poetic creation was only conformity to Nature, the idea is as old as Aristotle and Horace, and it is formulated not for the first time even in the course of Mr. Cowl's book.

We notice that the title of Mr. Cowl's volume is the *Theory of Poetry in England*, and we fail to understand why there are chapters in it on *Translations* and the *Functions and Principles of Criticism*. The former is interesting enough, containing as it does Dryden's well-known remarks on Translations and Translators and other interesting passages, but there is little excuse for such a digression especially when the editor has not thought it worth while dealing with such a closely allied subject as the *Drama*. The latter subject cannot be dealt with satisfactorily at all in such a short compass as thirty-five pages especially when it has been made to include three such subjects as *Criticism*, *Functions and Principles*; *Qualifications of the Critic and Taste*.

It will be agreed on all hands that the value of such a book depends mainly on a satisfactory Index and we regret Mr. Cowl has confined himself in the Index to the mere enumeration of the writers quoted and the somewhat vague titles of the passages. Some facilities besides the brief *Contents* must surely be provided for looking up passages which a reader may need for reference. Even such a well-known expression of Matthew Arnold's as "The Criticism of Life," in his definition of the theory of poetry finds no place in the Index. The book is supposed to devote a whole chapter to *Metre and Versification* and indirectly to the distinction between poetry and prose and we find no reference to Dryden's famous expression, "The Other Harmony of Prose." We confess it was possible to have written a very much better book on the subject.

INTRODUCTORY PHYSICS, by R. A. GREGORY AND A. T. SIMMONS, B. SC. (MACMILLAN & CO.)

The book provides a course of work in which special attention is paid not only to the practical exercises performed by the pupils, but also, the principles, they illustrate. It is the consideration of these principles that enables the purpose of the experiments to be understood and the separate facts of laboratory work to be properly correlated. In every section, the exercises to be performed by the pupils, are indicated by numbers in thick type while the exercises distinguished

by the numbers in ordinary type are suitable for demonstrations.

There are certain features, which make the book more suitable as a text-book for Indian High Schools, than the lessons in Science by the same authors. The book contains a large number of exercises to be performed by the pupils and this makes the book very desirable as a laboratory manual in the High Schools of this Presidency, where at present, much of the knowledge, which the students gain in Elementary Science has to be from the experiments performed by the pupils themselves. The descriptive text will serve to bring together, the results of separate experiments into a co-ordinated whole and impart in a very forcible manner, the rudiments of Physics. Much of the more advanced portion in heat is removed, while Light, Electricity and Magnetism are omitted, as they are somewhat beyond the scope of an Introductory book on Physics.

The book is finely got up, the printing is in bold type and the illustrations neat and copious. Certain very useful topics are treated in as elementary a way as possible, such as the description and use of the Rain gauge, measurement of friction, use of the windlass, cog wheels, geared winches, screw jacks and Temperature and Pressure charts. The last section explains in a very simple and intelligible way the action of the Steam Engine, so familiar now to Indian students, and draws particular attention to the relation between heat and mechanical work and the Law of the Conservation of Energy.

The book is eminently suitable as a text-book for the Physics portion of the Elementary Science (B Group of the School Final Scheme) particularly in the lower (IVth & Vth) Forms of High Schools, while except for the omission of Light, Electricity and Magnetism there is no reason, why it will not serve the needs of all the High School forms, as well.

INTRODUCTORY CHEMISTRY, BY R. A. GREGORY AND A. T. SIMMONS (MACMILLAN & Co)

Every section of the book contains a large number of experiments to be performed by the pupils, which are followed by the descriptive text relating to the subjects covered by the practical work and serving to bring together its results into a connected whole.

The book follows, in the main, the plan adopted, in the Lessons in Science by the same authors. Certain new features, however, have been introduced and certain modifications made,

which make the book more adapted to the syllabus in Elementary Chemistry in High Schools. Much of detail is avoided and the more advanced and dangerous experiments omitted. The book contains a large number of experiments to be performed by the pupils, leaving them to get their own results and from their own conclusions. It will thus serve very well as a Laboratory Manual, for the guidance of the pupils in their practical work, while the descriptive matter at the end of each section makes it suitable as a text-book.

There is a chapter dealing with, in as simple a way as possible, the Laws of Chemical Combination, Chemical Formulae and Chemical Equations, and this introduces the pupils, at an early stage, into the important conception of the quantitative side of Chemical reactions.

The book is very well got-up, the printing is in bold type and the illustrations neat and copious.

The book is strongly recommended as a text-book on the Chemistry portion of the Elementary Science (B. Group of the School Final Scheme), for use in all the forms of the High Schools, in this Presidency.

CHEMICAL CALCULATIONS, BY H. W. BAUSOR, M.A. (UNIVERSITY TUTORIAL PRESS, LTD.)

The object of the book is to provide a course of training in the methods of chemical calculation; when, as now, the teaching of Chemistry from the experimental point of view, is so important, that instruction in chemical calculation is apt to be neglected. A training in the methods of calculation, will certainly serve to make the experimental knowledge more complete and sound, for the only test of the student's grasp of the fundamental laws of the subject, is his ability to apply them to the solution of numerical problems.

A proper grounding in the methods of calculation, will help the students to work out the results of their own experiments while many of the examples given in the book will suggest to the teacher or the lecturer the kinds of experiments to be given to the students for practical work.

The presentation of the worked examples is very good, the several steps involved in a particular example are clearly shown and attention is well drawn to the object of each particular step.

In each chapter of the book, some definite principles are taken up for treatment, for instance, "The Gas Laws." They are well explained and then follow a number of worked examples in graded

order. For the students' practice, there is a large number of examples at the end of the chapter. As the author himself says, the examples have not been taken from examination papers, as they are usually done, but they have been specially written for the book, so that they may form a well-graded and thoroughly representative set of problems.

The principles and laws treated in the book are such as are ordinarily studied by the students in the Intermediate and B. A. classes, and to them, the book is sure to be highly useful. It can well be used also, by the teachers of High School classes, who can select from the book such examples as will suit their own requirements.

CHEMICAL CALCULATIONS: ADVANCED COURSE, BY H. W. BAUSOR, M.A., (UNIVERSITY TUTORIAL PRESS, LTD.)

This little book forms a continuation of the more elementary work on chemical calculations, by the same author, and follows, in the main, the same plan. The principles treated are such as are ordinarily studied by the students of the B.A. Pass Course of this University (Chemistry Branch), while many of the problems may well suit the requirements of the B.A. Honours students.

The subjects treated in this little volume are, Quantitative organic analysis, Molecular determinations in solution, Mass action and Thermo-chemistry. The last branch (Thermo-chemistry) has been treated with a thoroughness, which makes the book very useful.

It is a book which can with great advantage be used by the B.A. Pass and Honours students in Chemistry.

PRACTICAL PHYSICAL CHEMISTRY, BY FRANCIS W. GRAY, M.A., D.Sc. (MACMILLAN & Co.)

The book is a Laboratory Manual in Practical Physical Chemistry and has grown round instruction sheets written by the author in connection with Laboratory work.

The chief feature of the book is the series of a number of time-limit experiments, which can be finished in a period ranging from two to three hours. When large classes of students are working during the same period, it causes a great inconvenience and trouble, if the experiments have to be carried over from period to period, for it disorganises the arrangement of practical work. The restriction of the experiments to a time-limit helps to make the arrangement of the practical

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work, regular and systematic and is of great help to the teacher. The book contains about thirty-nine of such time-limit experiments which can be finished in the proper time, provided, of course, that the apparatus is arranged beforehand by the demonstrator. The book also contains some experiments which are not numbered, and which will form suitable experiments when unlimited time is available.

The book opens with a mathematical discussion of "Accuracy and the Theory of Errors" and gives a list of the amounts of error in the measurement of certain commonly occurring quantities. This is followed by a number of practical exercises on Density, Vapour Pressure, Depression of the Freezing point and Elevation of the Boiling point, Surface Tension, Viscosity, Thermo-chemistry, Spectroscopy, Specific Rotation of optically active liquids, Electrolysis, Conductivity of Electrolytes and Electromotive force.

At the end of each experiment is given the amount of allowable error, which will give an idea to the students as to how far, their results are capable of improvement.

Where necessary, a complete and extremely clear discussion of the theory precedes the experiments. The descriptive matter is concise and clear and the methods described are up-to-date and many of them original.

The book is indispensable to B.A. Honours and Post-graduate students doing practical work in Physical Chemistry.

PUBLICATIONS RECEIVED.

Second Year Direct French Course, by G. A. Roberts, M.A. and H. G. Chaytor, M.A., London: Clive.

Preliminary History of English, by M. K. Elliott and M. S. Elliott, B.A., London: Clive.

Explicit Arithmetics: Pupils' Books I, II and III. Teachers' Books I, II and III, 8s. each, London: Longmans.

The Economic Organisation of England, by W. J. Ashley, M.A., M. Com., Ph. D., London: Longmans. 2s. 6d. net.

Manual of Nursing Homes and Hydros of the British Isles, London: Alex. Matthews & Co., 2s. 6d.

Poets for Schools, by R. Scott, M.A., D.D., Bombay: Coopes, 12 as.

ous. When the news of his retirement was made known the Rajah of Ramnad invited him to go over to the scene of his earlier labours and build up an institution which he was starting. Mr. Shutie hoped that he might be spared to fulfil the work the Rajah expected of him to do. As regards the eloquent tokens of their regard for him he would, he said, treasure them up among his valuable acquisition. To the boys he gave a few words of advice stating that the honour of the College and that of the University lay largely in their hands. They must not by their conduct tarnish their fair name or bring disgrace on those institutions and must in their turn try to do good in their immediate surroundings. He thanked one and all, particularly Mr. Gillespie, Rao Bahadur T. Subramania Iyer, and those who had done him honour by their presence that evening. Mr. Gillespie, before concluding, unveiled an oil painting of the retiring Principal amidst applause. In so doing he said that they had inaugurated many things that evening to keep Mr. Shutie's name green for years to come in their midst, viz., the Shutie Trophy, the Shutie Library and then came the portrait. On behalf of the College staff and students, he would thank Mr. Shutie for his words of advice, which he hoped they would act up to in their life. In conclusion he offered Mr. Shutie himself their best wishes for many years of happy life in his new appointment. The singing of the National Anthem brought the proceedings to a close. Mr. and Mrs. Shutie were then taken in procession round the Salem streets and thence to their Bungalow, the carriage being dragged by the boys themselves and the band playing throughout.

St. Aloysius' College.—His Excellency and party visited the St. Aloysius' College, where the Rev. Cornelius Perazzi, Rector, met him and conducted him into the spacious College Hall. On the dais was put up the British coat-of-arms with rows of young students on both sides. The Rector presented a complimentary address of welcome and loyalty to His Excellency, and the students sang a welcome song. His Excellency made a brief speech in reply and thanked the Rector, staff and students for their cordial welcome and expression of loyalty. They had given, His Excellency added, tangible proofs of loyalty by the generous and welcome contributions to the War Relief Fund started in the Madras Presidency. Besides money contributions there was another way in which every one was capable of service, for even now much ignorance existed not only as to the origin of the war, but also as to its subsequent events of progress. To correct that ignorance and to explain how it was only after exhausting all possibilities of negotiations and conferences that England took up arms was a service which all could render and which especially students who were in an atmosphere of intelligence and education were men weighed the meaning of words could render. By such service they would have the satisfaction of knowing that they were

doing something not only to help forward the cause of the British Empire, but the cause of truth, honour, justice, and civilisation. His Excellency wished hearty success to the College in its work and proceeded to visit the classes and laboratories at work in company with the Rector. The College has huge piles of buildings on a hill overlooking the town, and is most admirably situated from a sanitary point of view. Attached to the College is a Church dedicated to St. Aloysius' Jonzaga, patron of youths, Frescoes and tableaux with which Bro. Moschimini, an Italian artist, adorned its walls and ceilings in 1900 have made the Church a centre of attraction for the public, Christian and others. After spending about an hour in seeing the College and after expressing satisfaction and pleasure at having had the opportunity of seeing the useful work done by the institution, His Excellency and party returned to the Collector's Bungalow. The members of St. John's Ambulance Corps lined the road to the College, and the Band of St. Joseph's Asylum Institution played selections of music.

Lady Lecturers in Cookery and Housewifery.—The Government has formulated a scheme for appointing Lady Lecturers in Cookery and Medical Housewifery and other allied subjects.

The following are the different establishments, proposed by the Director of Public Instruction, and approved by the Government:—

COOKERY AND GENERAL HOUSEWIFERY COURSES.

	Per annum.
	RS.
Lecturer's salary at Rs. 300 per mensem	3,600
Lecturer's travelling allowance	720
Peon on Rs. 9 per mensem	108
Kitchen boy on Rs. 10 per mensem	120
Chokra on Rs. 5 per mensem	60
Contingencies at Rs. 100 per mensem	1,200
Furniture (non-recurring)	600
	6,408

MEDICAL HOUSEWIFERY COURSE.

Remuneration to a medical man or woman for a course of lectures	500
Contingencies at Rs. 30 per mensem	360
	860

NEEDLEWORK AND DRESS-MAKING COURSE.

Lecturer's salary at Rs. 300 per mensem	3,600
Lecturer's travelling allowance	720
Peon on Rs. 9 per mensem	108
Contingencies at Rs. 100 per mensem	1,200
Furniture (non-recurring)	300
	5,928

Miss Winifred Park has already been appointed lecturer in Cookery and General Housewifery, and has already begun work. For needlework and dress-

making, an attempt is to be made to find a qualified teacher in India. The Director hopes that it will be possible to find a lady who can, in addition to needlework and dress-making, take up all the less technical portions of the medical housewifery course, the more technical portions being entrusted to some one who has been trained in medicine.

Nagercoil College Day Celebration.—The first College Day of the above College was celebrated with great *éclat* on the 3rd inst. A series of matches—football, tennis and badminton—were played between the past and the present students of the College on the previous day. These were followed on the College Day by athletic sports and comic entertainments ending in the serving of refreshments to all students. Mr. Krishnan Nair, B.A., B.L., Dewan of Travancore, who kindly consented to preside over the meeting, was received at 5 p.m. by the Rev. G. Parker, M.A., B.D., Principal of the College, amidst cheers. The local Senior Dewan Peishkar, Mr. N. Subramania Aiyer, M.A., also accompanied the Dewan. Precisely at 5-30 the meeting commenced with an opening speech of the President. The Dewan expressed the indebtedness of Southern India to the efforts of Christian Missionaries. It was in 1819 that the Rev. Charles Mead of the London Missionary Society opened an English school in Nagercoil with 30 pupils. His successor Mr. W. Charles Miller, had in 1834, a pupil named Thann Pillai, who became Dewan of the State. In 1842, the Rev. O. Whitehouse, a teacher of high attainments, became Superintendent. One of his pupils founded the existing annual "Rama Rao" prize. Then came Dr. Duthie, who laboured hard for many years. Through his efforts the school, in 1893, was raised to the level of a college, and its present name given to it. The "Scott" referred to in that name was Mr. Septimus Scott, whose gifts to the London Missionary Society were large and generous. In 1900, the present Principal, the Rev. G. Parker, took charge. In 1900 the number of students was 21 only, whereas to-day it is 170. There is a library of 2,000 volumes, a science laboratory, and it may be hoped that under the fostering care of Mr. Parker, the limits of its expansion have not been reached. After a few words on the desirability of an Annual College Day, the Dewan wished long life, success, and prosperity to the Nagercoil Christian College Day. This speech was followed by the speeches of Mr. Thann Aiyer, B.A., and the Rev. S. Devasagayam, B.A., who represented the past students. Then Mr. Ananthaswamy Iyer, a student of the Senior Intermediate Class of the College, spoke on behalf of the present students. The Dewan in his concluding speech, complimented the London Missionary Society on its splendid work in Nagercoil, especially in the field of education. The meeting ended with a vote of thanks to the President and three hearty cheers to his Highness the Maharaja of Travancore proposed by the Principal. The meeting over, there was a Conference of old students and the Principal. This was followed by a display

of fireworks. The College was well-decorated and beautifully illuminated for the occasion. At about 8 p.m. the Dewan and the Dewan Peishkar re-entered the hall to attend Sheriden's "Rivals," played by the present students. The piece was well played. Many local Europeans, both officials and missionaries, were present.

MYSORE

Compulsory Education in Mysore.—The Mysore Elementary Education Regulation V of 1913 received the assent of His Highness the Maharaja in October of the same year and steps were immediately taken to bring it into operation. A closer investigation into the prevailing condition favourable to the measure was undertaken and statistics were called for both as regards the approximate number of boys between the years of 7 and 11 and the exact number of existing schools in about twenty places. With this and other necessary data the Inspector-General of Education in Mysore proposed that the scheme might be tried in fifteen places to begin with and he accordingly recommended its introduction in all the District Headquarters and one Taluk in each District except Mysore, which might have two taluks, Shimoga and Kadur having none for the present. Government agreed with the Inspector-General and sanctioned his recommendation and the names of the fifteen places have been notified in the Gazette. Subsidiary Rules under the Regulation have also been framed and published in the Gazette (8th July 1914, both in English and Kanarese). School Committees have already been formed in some places and are in process of formation in others. Some of these Committees have already begun and others are about to begin their work. The introduction of the scheme into the City of Bangalore began in June last. At an extraordinary meeting of the Municipal Council, Rao Bahadur M. Shama Rao, M.A., the Inspector-General of Education in Mysore, was present with the Deputy Inspector-General and other inspecting officers. The Hon. President Raja Sabha Bhushana, K. P. Puttanna Chetty, Dewan Bahadur, explained to the Councillors the generous idea which prompted the Government in passing the measure and exhorted them to do their best to work out the scheme to a successful issue. The Inspector-General of Education then dwelt briefly on the salient features of the Regulation and asked for co-operation. The Regulations and the Rules were then read to the members and resolutions were passed appointing nine School Committees for the nine Municipal Divisions of the City and the number of members each Committee ought to contain according to local needs. The Honorary President sent to the Inspector-General of Education a list of gentlemen who might be appointed Chairmen and members of the School Committees and the names were duly published in the official Gazette. All the nine Committees met once at least so far, and some more than once, discussed the details, passed resolutions fixing the quorum, the

King Arthur, by H. Malim, M.A., Bombay : Oxford University Press, 12 as.

Kings of Then and Now, by Edith L. Elias, London : Macmillan, 3d.

Here and There in the British Empire, London : Macmillan, Ltd.

Here and There in Asia, London : Macmillan, 5d.

Reform Arithmetic for Rural Schools, by P. Wilkinson, B.A., B.Sc., and F. W. Cook, A.C.P., London : Macmillan, 5d.

Murray's Graduated Spelling Book, London : Macmillan.

Modern Business Routine, Vol. II—Import and Export Trade, by R. S. Osborne, F.S.S., London : Effingham Wilson, 2s. 6d. net.

A Short History of English, by Henry Wyld, London : John Murray, 6s. net.

Padmini : an Indian Romance in Tamil, by V. Mathusami Iyer. Srinivasa Varadachari & Co., Madras. 12 as.

Indian Educational Notes.

MADRAS.

Government Orders.

The Government are pleased to approve of the scheme formulated by the Director of Public Instruction in paragraph 2 of his letter No. 4322, dated the 30th June 1914, for an extension of the work in domestic science in connection with European schools. They further sanction, for a period of one year for the present, the proposals in regard to establishment and other matters relating thereto, contained in the Director's letter No. 4322, dated the 17th September 1914, with the exception of the proposed employment of a female attender on Rs. 12 and an Indian nurse on Rs. 20, the necessity for neither of which has been made out. The menial servants sanctioned will not be eligible for grant compensation allowance. The re-appropriation statement promised by the Director will be awaited.

The Government are pleased to sanction, as a special case, a grant not exceeding Rs. 14,360, towards the cost of certain extensions to the St. Michael's Boarding House attached to the St. Michael's High School, Coimbatore, subject to the following conditions :—That, in carrying out the work, the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled, the grant will be paid from the Imperial assignment for hostels when it becomes available.

The Government sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 8,525, towards the cost of constructing a building for St. Joseph's High School, Pavaratty, subject to the following conditions :—That in carrying out the work the suggestions of the Chief Engineer are adopted; and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled, the grant will be paid as funds become available.

The maximum amount of grant sanctioned in G. O. No. 589, Educational, dated the 23rd June 1913, towards the cost of certain improvements to the building occupied by the Hindu High School at Madurantakam, Chingleput District, will be raised from Rs. 6,950 to Rs. 9,100.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 3,715, towards the cost of certain alterations to the building occupied by the Harris High School, Royapettah, Madras, and subject to the following conditions :—That, in carrying out the work, the fresh estimate for Rs. 7,430 referred to in paragraph 2 and the suggestions contained in paragraph 3 of the Chief Engineer's Note No. 553-D, dated the 6th October 1914, are adopted, that the Superintending Engineer is satisfied that the foundations provided are suitable, and that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled, the grant will be paid as funds become available.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 1,200, towards the cost of re-roofing the buildings of the Nazareth Convent Girls' School, Ottacamund, and a grant not exceeding two-thirds of the actual expenditure, nor Rs. 5,366, towards the cost of constructing a kitchen for domestic economy, cookery and laundry teaching to the pupils of this school and the St. Agnes' Poor School, Ottacamund, subject to the following conditions :—(1) that the works are carried out in accordance with the plans and estimates approved by the Chief Engineer; and (2) that all the conditions prescribed in the Code of Regulations for European schools have been duly complied with. On the above conditions being fulfilled, the grants will be paid as funds become available.

St. Joseph's College Day, Trichinopoly.—The St. Joseph's College Day and prize-distribution was celebrated recently when an interesting programme lasting the whole day was successfully gone through. Sports were held in the morning in which students of the College and High School took an active part. In the evening of the day football was played from 3 to 5 P.M. The prize-distribution was

held in the Lawley Hall at 5.30 P.M., with Mr. Lionel Vibert, I. C. S., Collector, in the chair. The spacious hall was thronged to overflowing and the proceedings commenced with the playing of the National Anthem of the Allies by the College Band. Then the annual report was read by Rev. Father Bertram, S.J., Principal of the College. After the distribution of prizes by Mrs. Vibert, the Chairman delivered a short and interesting speech in which he eulogised the work of the St. Joseph's College which showed a brilliant record of progress in various useful departments of activity. At 7.30 P.M., the students staged "James V and Douglasses" a drama in 3 acts in the Lawley Hall which continued till 10 P.M., when the proceedings were brought to a close.

The Municipal High School, Bellary.—A meeting of the teachers and pupils of the Municipal High School, Bellary, was held on Thursday, the 12th inst., to express their deep sorrow and profound regret at the demise of the late Mr. T. Narasimhachari, who was for a long time the Telugu Pandit of the school and who, during his period of connection with it, rendered it very valuable service. Short speeches befitting the occasion were made in English and Telugu and the school was closed for the rest of the day as a mark of respect to the Pandit.

A. B. M. High School, Ongole.—The annual prize-distribution of the A. B. M. High School was held on the evening of the 16th instant. The Honourable Rao Bahadur Mr. Ramachandra Rao Pantulu Garu, B.A., B.L., of Ellore, presided on the occasion and the Rev. J. Heinrichs, President of the Theological Seminary, Ramapatam, delivered an address on "Educational Ideals." A few ladies and a large number of the gentlemen of the town were present. The fine hall, finer by the beautiful decoration, was filled to its utmost capacity.

The lecturer in the course of his address pointed out that some false ideals, such as self-interest, securing a good livelihood, good salaries or lucrative positions are not too often uncommon aims with some. There is a second class of people who had an intellectual ideal of Education. Making Education not the means but an end in itself. A better ideal, no doubt, but no person or country has ever been saved by intellectualism alone. Every student of History will know how the Greeks possessing the finest of an intellectual institution had to make way for a nobler ideal. The best one is the "Service ideal." The learned lecturer referred to the motto "I serve" of His Gracious Majesty King George and to that of the Apostle Paul "A bond servant of Jesus." The idea of educating the whole man, body, mind and the soul was ably emphasised. Moral regeneration and the building up of character were essential features of Education which ought not to be overlooked. In closing, the lecturer quoted from Mr. Henderson his famous ideas on education.

The Principal then read his report. He showed how the progress of the school was steady and satisfactory in every way. Out of 41 students that appeared last year for the School Final Examination 15 have secured admission into the Intermediate Class and a few more who could have continued were disabled by causes other than lack of marks or qualifications for admission. It was gratifying to know that one of the candidates stood as the sixth boy in the Presidency in English. The Government were pleased to give a generous grant of Rs. 4,007 this year. Regret was also expressed for much that remained yet to be done. We know, he said, that Rome was not built in a day, neither should we hope to have a school complete in one afternoon. The prizes were next awarded. The Chairman in his concluding remarks expressed a hope that the school would again be raised to a Second Grade College very soon. Thanking the lecturer for his able address and Mrs. Martin for her excellent music, he congratulated the Principal and his staff for the satisfactory record. The function terminated with the usual vote of thanks and the singing of the National Anthem.

Salem College : Farewell Address to Mr. Spencer A. Shutie.—Mr. Spencer A. Shutie, the Principal of the Salem College, after a service extending over 22 years, retired from the post recently. He was the recipient of a Farewell Address from the staff and students—past and present—and some souvenirs. The presentation ceremony took place at a public meeting held in the College Hall under the presidency of Mr. J. T. Gillespie, I. C. S., the District and Sessions Judge. There was a large attendance consisting of ladies and gentlemen invited for the occasion. The President briefly opened the proceedings. Recitations in English, Sanskrit, Tamil and Hindustani were given by the boys. The Farewell Address printed in parchment and enclosed in a beautiful cylindrical casket was read by Mr. D. Krishnaswamy Aiyangar, the Secretary of the Entertainment Committee.

Mr. Gillespie announced that Rao Bahadur T. Subramania Iyer, the non-official President of the Salem Taluk Board and a friend of Mr. Shutie, had instituted the Shutie Senior Cricket Trophy, the Shield to be competed for by the student teams in the two districts of Salem and Coimbatore. Rao Bahadur Subramania Iyer then made a short speech explaining the idea of the trophy and paid a tribute to Mr. Shutie's work in Salem College. Mr. Gillespie then opened the Shutie Memorial Library and distributed medals which had been held over at the end of the Inter-School Sports. Mr. Shutie made a touching reply. He wished to reciprocate, he said, the good feelings shown him in turn to his own pupils and his colleagues. Looking back over 22 years he felt he had something to be proud of and much to regret—viz., the neglected opportunities to do good work. He had endeavoured to give his best from a sense of duty, and his relations with them had been very cordial and harmoni-

place and time of monthly meeting, etc. One of the important resolutions was the distribution of work and the consequent fixing of individual responsibility for particular areas. Mr. K. Krishna Rao, B.A., L.T., Special Officer attached to the Office of the Inspector-General of Education, has been appointed to do the duties of Attendance Officer (Secretary) for all the nine Committees in the City in addition to his own duties. This is expected to bring about uniformity in their working. A Central Committee also for the City is under consideration. The Attendance Officer has called for statistics from all the schools in the City.—Government, Aided and unaided private schools having primary classes. Half the number of these schools have already sent in their returns. When all of them are received, it will be possible to know how many of these who are not known to have been attending any school, can be sent to the existing schools, how many claim exemption for valid reasons and how many schools require to be newly opened for the rest. The members of the Committees have, in the meanwhile, been visiting the schools in their divisions and the localities of boys who are not attending any school whatever, with a view to persuading their parents to send them to school. As a result of this, a few boys are reported to have already begun to go to some schools or other. The list of schools in the City which have to be recognised for the purpose of the Elementary Education Regulation is ready and will be published in the official Gazette early. Accommodation, staff and other necessary equipments for the new schools have been thought about, and schools will be opened when the number is definitely known.

Foreign Scholarships.—G. O. dated 22nd October 1914. For sometime past the Government of His Highness the Maharaja of Mysore have had under their consideration the question of improving the scheme under which scholarships tenable in foreign countries are being granted so as to meet the requirements of the present time and of the immediate future. The existing rules for the Damodar Das Scientific Research and Technical Education Scholarships framed in 1906 provide for the grant of only two such scholarships every year from the Damodar Das Fund. There are no rules regulating the grant of foreign scholarships from State Funds though several such scholarships have been granted on the merits of individual applications received from time to time. Taking a retrospect of what has been done till now to afford foreign training to the young men of Mysore, it is seen that, from 1891 up to the present, 24 persons have been given State scholarships and since the inception of the Damodar Das Scholarship Scheme in 1904, 18 scholars have been trained. Analysing the figures it is found that 15 scholars proceeded to Europe and America for advanced study in Medical and Sanitary Science, 6 in Geology, Mining and Metallurgy, 4 in Electrical and Mechanical Engineering and Architecture, 7 in Forestry and Agriculture, 2 to study the art of

Printing, and the rest other subjects. Of the scholars, 20 are now in the service of the State, 10 are still in Europe, 4 died and full particulars of 4 are not known. One is serving outside Mysore and 3 are not in service. In the opinion of Government the object of the scheme of foreign training in the present condition of the State should be to promote advanced scientific study, technical training and a spirit of research among the people, to train in European countries a number of young men who will follow industrial and commercial occupations which will conduce to the development of the country and also to secure for the service of the State in its several departments, young men trained in Western Universities and Colleges, imbued with the progressive spirit of the West and equipped with a first-hand knowledge of modern methods. To attain these objects, it is necessary to increase the number of foreign scholarships; to enlarge the range of subjects for training so as to comprise industrial and commercial subjects more largely; to improve the methods of selecting candidates in order to ensure the securing of the best talent in a given time; and to make a suitable provision for facilitating deputation to countries where English is not the spoken language. The Government of His Highness the Maharaja of Mysore have therefore decided to institute a certain number of State and Loan Scholarships and have also slightly revised the Damodar Das Scholarship Rules, (the total number of scholarships being 11). The cost on account of the scholarships will amount to Rs. 1,12,000 per annum. The cost of the Damodar Das Scholarships, viz., Rs. 18,000 per annum will be wholly met from the annual interest realised from the Damodar Das Charity Fund invested in the Government of India Securities. The Loan Scholarships will cost Rs. 51,800 every year, which will be advanced by Government and will be finally recovered from the scholars. The State Scholarships will involve an expenditure of Rs. 42,600 per annum, provision for which will be made in the State Budget.

CALCUTTA.

Scholarships for Anglo-Indian Boys and Girls: The following notification concerning the State Scholarship of £200 per annum tenable in the United Kingdom by European and Anglo-Indian Girls or Women domiciled in India appears in the "Calcutta Gazette":—

The Scholarship will be granted for educational or medical training and will be tenable in the United Kingdom for a period of three years in the first instance, with possibility of extension in special circumstances, and in particular in the case of medical students, to four and five years. The scholarship will carry with it no conditions as to any subsequent career or service under Government, and no expectation of such employment is held out.

The term "educational training" will be held to include (a) training in music, (b) training for teaching in secondary institutions, (c) training in domestic sciences, (d) training as teachers of modern European mistresses, (e) training as art teachers, (f) training in Kindergarten methods.

The scholar will be selected by the Government of India from among candidates nominated by the Local Governments. Intending candidates are requested to make application to the Inspector of European Schools, Bengal, No. 285, Bow Bazar Street, Calcutta, from whom further particulars may be obtained in time to reach the Director of Public Instruction not later than January 3rd, 1915. The application should be accompanied by (1) evidence of having obtained the B. A. degree or in the case of a medical candidate, a degree in medicine of an Indian University; (2) a medical certificate of fitness to undergo abroad the course of study proposed; (3) a certificate of age; (4) a certificate from some person of recognised position well-acquainted with the candidate to the effect that she is a native of India within the meaning of Statute 33, Vict. Chap. 3, section 6, and that her parents are not resident in India for temporary purposes only; (5) the names, addresses and other particulars of friends or relatives in the United Kingdom to whom the applicant's parents or guardians are willing to commit her guardianship during vacation. The selected candidate will be provided with a second-class passage to England, and with a second-class return passage if she completes the full period of residence or is compelled by sickness to return within that period.

Applications are invited for the State Scholarship of £200 per annum for European and Anglo-Indian Boys domiciled in India, which is tenable for three or four years at any University of the United Kingdom. The scholar will be selected by the Government of India from among the candidates nominated by the Local Governments. Applications should be forwarded to the Inspector of European Schools, Bengal, 285, Bow Bazar Street, Calcutta, from whom further particulars may be obtained in time to reach the Director of Public Instruction not later than January 3rd, 1915.

BOMBAY.

Teachers and Inspectors.—The following Press Note has been issued by the Government of Bombay:—In July, 1912, the scale of pay of assistant teachers in Government Secondary schools and

Training institutions was revised at a cost of Rs. 31,140 per annum, the initial salary being fixed at Rs. 40 per mensem. It was, however, considered that this improvement did not go sufficiently far, as it was held that, if graduates with superior attainments were to be attracted to Government Secondary schools, the scale should be further improved so as to provide Rs. 50 as the initial salary, the remaining posts being regraded with salaries ranging between Rs. 50 and Rs. 150. This further improvement has now been sanctioned with effect from 1st April, 1914 and involves an additional charge of Rs. 26,220 per annum. The major portion of this charge, namely Rs. 22,000 will be delayed from the sum of Rs. 50,000 annually accruing to Government from the raising of the fees in Government Secondary schools.

A second important revision has also been sanctioned with a view to equalising the prospects of educational officers in the inspecting and teaching lines. Inspecting officers are recruited from the same class as teaching officers, and although the former have no vacation, are on tour for a large part of the year and have to bear the strain of an ever increasing amount of administrative and office work, their prospects have hitherto not been so good as those of teaching officers. To remedy this state of affairs, the pay of the highest grade of Assistant Deputy Educational Inspectors is to be raised from Rs. 125 to Rs. 150 per mensem, so as to equal the pay of the highest grade of assistant teachers. The pay of Deputy Educational Inspectors has also been revised in order to bring it approximately up to the existing pay of their colleagues in the teaching line. Hitherto there have been only three grades, on Rs. 200, Rs. 250 and Rs. 300 per mensem. In future there are to be two new grades on Rs. 350 and Rs. 400. In addition to this, a rise of pay has been granted to the Principals of the Training Colleges at Poona, Ahmedabad, Dharwar and Hyderabad and to the Headmaster of the Daulia Training School. These posts, are not, strictly speaking, inspecting posts, but they are appointments to fill which inspecting officers are specially qualified and to which they may ordinarily look for promotion. At present four of these posts carry a pay of Rs. 400 and one a pay of Rs. 300 per mensem. In future the incumbents of the three will receive Rs. 500 and the remaining two Rs. 400.

The cost of the revision described in the preceding paragraph will amount to Rs. 19,200 per annum and will be met from the recurring unpledged balance of the Durbar grant of Rs. 6,70,000.

The Educational Review.

This meeting proved to be a unique one in various ways. For one thing, the Senate sat for four days, nearly four hours each day, and was yet unable to dispose of all the questions on the Agenda Paper. This is a state of affairs highly to be deplored. And yet no Fellow of the Senate seems to have realized this or to have thought it necessary to propose a remedy. Sometimes the evil is worse than this. It often happens that the Fellows set to work with a long list of questions to be disposed of and when in the course of the evening it is found that the clock is nearing seven and the Agenda Paper is not half through, they put on a spurt and important questions are voted on without a proper discussion and very often settled by a snatch vote in a half empty house. Why should this be? Is it that the Senate has to dispose of more business than can be satisfactorily done by a large body of nearly one hundred members? If so, some means ought to be devised for division of labour. There are other forms of University machinery now quite unutilized, capable of dealing with some questions that are now brought before the Senate. We mean the various Faculties and Boards of Studies. In fact several of the questions that find a place in the Agenda of the Senate Meeting are such as the Senate is not at all competent to deal with, but ought to be disposed of by these bodies—such as details of the syllabuses of Engineering or Medical examinations,

which are things of which the average Senator knows absolutely nothing, and yet not a meeting of the Senate takes place but some alteration in syllabuses in technical subjects is voted on. One should think these were exactly the things that the Faculties in these subjects ought to consider. The Faculties of the University are bodies which have nothing at all to do. Whenever any person is gazetted a Fellow, the Senate on the recommendation of the Syndicate solemnly votes him as a member of this Faculty or that but no Faculty does any work as a Faculty. When the new Regulations were passed under the guidance of the then Director of Public Instruction, they were so devised that the only function of the members of the various Faculties was to let their names appear in print in the University Calendar as members of those Faculties and no more. The Syndicate can yet work the Faculties if it is so minded; but it does not seem inclined to. The result is that work which can be and ought to be done by the Faculties is often brought before the Senate that has not the time and sometimes has not the patience to deal with.

Another reason why the work gets clogged in the Senate is that matters of detail which the Senate can vote on but in a haphazard way are placed before it. A prominent instance of this is the appointment of a Malayali Reader. The Syndicate proposed a certain gentleman for the place but Senators rose one after another, dissected the University career of the unfortunate person,

debated the momentous question of his mother-tongue and that of his ancestors and so on. We protest against this discussion of the merits and demerits of a candidate for any appointment in a public meeting to which half-a-dozen newspaper reporters were admitted. This is just the kind of work which must be done *in camera* and disposed of by a Sub-Committee. The Senate, nine-tenths of the members of which cannot be expected to know anything about the candidates for the Readership can but vote as the wind of denunciation bloweth and the vote can hence be regarded as of no value. We can, however, conceive of circumstances, in which there has been gross jobbery and the Senate may feel called upon to veto any action of the Syndicate but this can be done with dignity and without wounding any one's susceptibilities. Surely the condemning of a candidate selected by the Syndicate for an appointment because he did not pass some University examination at the first shot or his ancestors spoke Tamil cannot be regarded as enhancing the dignity of a body of grave and reverend Senators.

Another cause of the increasing complexity of the work of the Senate is the inability of the Syndicate to cope with its own legitimate work. We know that the Syndicate is composed of the ablest and most experienced of the Fellows; we also know that now-a-days the Syndicate meets very frequently and that the Syndicate Committees work extraordinarily hard, very much more than any corre-

sponding body of honorary members. And yet work that is proper to the Syndicate find its way to the Senate. We refer specially to the question of the reorganization of University finance which occupied the attention of Senators practically all throughout the year. The Syndicate reported that its income was not equal to its expenditure and proposed to resort to the direct taxation of candidates for its examinations. A section of the Senate vehemently opposed the proposal on the ground that the average student was poor and got the question referred to a Committee. The Committee proposed some mild measures of indirect taxation, such as making examiners work for less pay than now and pay their own travelling charges when they travelled on University business, etc. The measures not bringing enough fish to the net, the Committee that was appointed to save the poor student from a rapacious Syndicate, suddenly discovered that the student was poor, insufferably poor only just before sitting for examinations, but once he passed his examinations and became ready for Matriculation or for Graduation he struck a gold mine and could pay handsome fees. The Senate passed almost all the suggestions of the Committee, when lo! it was discovered that the Syndicate was not in want of funds and all the year's labours, debates and resolutions and what might have led to an insufferable increase of examination fees or disastrous retrenchment of expenditure ended in nothing. The only remarkable feature of the thing was

that more money was spent on travelling allowances to Fellows for the purpose of reducing the travelling allowances of examiners than could ever have been recouped if the latter proposal had finally been approved of.

This was another question which was hotly debated in the Senate and outside and at College. also ended in nothing tangible. The question arose on the confession of impotence by the Syndicate with reference to keeping within bounds sundry Principals who defied the Syndicate's instructions for matriculating pupils. The obvious course for the Syndicate to take was to threaten to disaffiliate the few Colleges which misbehaved. This would have brought the most recalcitrant Principal to his knees. Instead of this, the Syndicate asked the Senate permission to publish a black list and a white list—the former of Colleges which, on account of misconduct were to have but modified rights of Matriculation and the latter of those which were to have unrestricted rights. Many Fellows rightly felt that this was a most unusual course to take and opposed the proposal. The opportunity was then utilized by a few Fellows who, not being educationists, are not conversant with modern educational opinion and are wedded to theories prevalent when they themselves were school-boys, to attempt to revive the horrors of the old Matriculation and to have mechanical rules for Matriculation, rules which would deprive Principals of the right to exercise their discretion in the matter.

The inevitable Committee was appointed and the upshot was that the Senate has resolved to recommend to the Syndicate to issue definite instructions to Principals as to how to deal with the Secondary School Leaving Certificate and what marks to accept and what to reject. Thus the attempt of the Syndicate to punish a few erring Principals has led to the Senate finding that the Syndicate has not till now issued definite instructions and secondly to punishing those Principals who have done their duty properly because a few were found by the Syndicate to have admitted inefficient pupils into their colleges. We do not mean to say that the Senate realized the above *reductio ad absurdum* when it passed the resolution but the Senate was rushed so breathlessly through a mass of work that it was not possible to calmly consider questions in all their bearings and had to vote in haste to get through its work.

Far and away the most important question disposed of at the last meeting of the Senate was the one of allowing candidates to take the Intermediate examination one part at a time. The Intermediate is the only examination that has to be taken *en bloc*. The public examination at the end of the school course can not only be taken subject by subject, but a candidate who has shown proficiency in any one subject can offer to be examined in the same subject any number of times with the object of securing a certificate of increased proficiency in that subject. This

is an extreme measure of liberty but it has tended to increased efficiency among school pupils. Yet the Rev. Mr. Macphail denounced the proposal to allow the Intermediate examination to be offered in parts on the plea that it would decrease the efficiency of University education. We could understand this argument if he meant that as a result of this measure the cleverness of the average of the students that will have passed the Intermediate examination will be less than now; but where is the harm? Will it be a misfortune to the country or a blow to the development of University work if more people should pass the Intermediate examination than do now? The cleverer pupils will pass the examination at one shot and these will ordinarily proceed to the Honours Degree. We hope it is not seriously contended that every student however clever he may be, will wantonly seek to lengthen his college career at the risk of increased cost merely for the fun of passing the Intermediate examination in three stages. It is hence clear that the average efficiency of the candidate for B.A. Honours will continue to be the same as at present. The only result of this measure will be that more men will take the B.A. Pass Degree than now; and why not? What India wants is a widespread Western education and the University work should be so organized that as many and not as few as possible ought to be able to take a Degree. The real cause of the opposition is this that many Fellows are unwilling to regard the B.A. degree as a Pass one.

An Honours Degree requires as its complement a Pass Degree—the former for the very clever and the latter for the average student. Though the Madras University has made provision for a really good Honours Degree, the ordinary B.A. Degree is a cross between a Pass Degree and Honours Degree, too difficult to be the former and too easy to be the latter. It is high time it is made a Pass Degree within the reach of the ordinary student. Even at the risk of being accused of pleading for decreased efficiency we appeal to the Senate to make the B. A. Pass Degree easier than it is, by eschewing subjects like Historical English Grammar, and by lightening the “science” portion of the course. As the Honourable Mr. Stone rightly remarked, the Intermediate courses are too heavy for the standard and it follows that the B. A. Pass courses based on the Intermediate are also too heavy for a Pass course. We know of a student of one of our Colleges who failed to pass our Intermediate examination, joined the Calcutta University and secured a distinguished pass in the B.Sc. in two years' time. The moral of all this is that the Committee that has been appointed to deal with Mr. K. V. Rangaswami Aiyangar's proposals about the Honours Degree may very well overhaul the whole scheme of University Degrees with the avowed purpose of lightening the Pass course.

We note with great pleasure that Mr. K. Raghavachariar, Government Pensioner and Honorary Presidency Magistrate,

has made a donation of Rs. 1,000 to the University which the University has accepted with thanks. The donor has placed no restrictions with regard to the utilization of the same, but has left the matter entirely in the hands of the University. This noble example, will, we trust, act as a stimulant to others to come forward with their donations, small or great, for the furtherance of University work, as in education and education alone lies the salvation of our country.

The Madras University has got the peculiar custom of arranging for the delivery of an Annual Address by some distinguished

Fellow containing words of advice to the graduates assembled in Convocation for the purpose of receiving their Degrees. The address this year was delivered by the Honourable Mr. P. S. Sivaswami Aiyer, one of the *alumni* of the Madras University who has risen to one of the highest possible positions which it is possible for a son of the soil to rise to. These Convocation addresses cannot help being to a large extent solemn commonplace, but Mr. Sivaswami Aiyer tried to make it as interesting as possible under the circumstances. After the preliminary felicitations to the graduates for their success in the University examinations, he pointed out to them that success in life did not always follow on academic successes, for "the sterner conditions of the outside world will demand, not merely a higher development of the qualities already acquired, but

others not tested by examinations or guaranteed by the course of training already undergone." Mr. Sivaswami Aiyer, thereupon, spoke to the graduates on the choice of a career and condemned "the phenomenon of young men crowding to enter Government service," because "the consequence is loss of independence, of individuality and enterprise and spiritless passivity." We fear that this is too gloomy a picture. There are now innumerable graduates who have served Government in very high capacities and who are doing incalculable service as members of the Legislative Councils, Directors of Banks, Chairmen of Municipalities, etc., with plenty of spirit and independence. Moreover we do not quite see that Government service is necessarily not "National service." Again we feel bound to ask, if University graduates are to boycott Government service, for what else are most of them fit? The public service has, within the last quarter of century and more, immensely risen in honesty, in tone, in independence, in efficiency, and in usefulness to the people at large, just because University graduates have crowded to it, started in very humble grades and risen in good time by merit to high places.

Mr. Sivaswami Aiyer then exhorted the graduates to keep up their study of English Literature and to cultivate specially the study of Sanskrit, "as the language which enshrines the highest ideas of Indo-Aryan civilization, as the language in which the highest achieve-

ments of the Hindu mind in the regions of philosophic speculation and religion have been recorded, as the language to which most of what is valuable in the vernacular literature of India owes its inspiration and as the language in which the ordinances that regulate our social life and institutions to this day have been written." We share Mr. Sivaswami Aiyer's enthusiasm in regard to the study of Sanskrit but cannot see how it will be possible for the average graduate to take to it, seeing that the Sanskrit language is the most difficult language under the sun. Moreover it is the tastes developed at Colleges and not abstract considerations of desirability that determine the future work of young men. This is why most Convocation advice has produced little fruit.

Speaking of female education, Mr. Sivaswami Aiyer remarks that its importance "is sufficiently recognized at the present day." We fear we cannot share in the optimism of the Honourable gentleman, seeing that the education of girls is still in the most primitive condition. True the children of the few men that have received English education go to school between the ages of seven and ten and, if on the strength of this it is deemed that "there is no reason for despondency in the future," it argues that we have not yet a glimmering of what the aim of female education ought to be. Passing on to the subject of the reform of our social institutions Mr. Sivaswami Aiyer showed his inclination to follow "the moderate centre which believes in

the combination of progress and order, has no faith in the efficacy of a succession leading to the formation of another caste and evidencing the gulf between the masses of the people and the educated classes and which trusts to persuasion and the creation of public opinion" and which relies not on human effort but on "the silent pressure of economic forces and of the instruments of material civilization." Ever since Justice Telang invented the unhappy phrase "reform in the line of least resistance," timorous people and those whose hearts do not surge with passion at the sight of oppression and slavery have relied on the framing of striking phrases as a means of social amelioration, but deeds and not words have ever righted wrong and helped people towards emancipation.

Mr. Sivaswami Aiyer then reminded graduates of their duties towards Municipalities and Local Boards and held up the late Mr. Joseph Chamberlain as a model for imitation. Seeing that there is such a wide divergence between Municipal work in England and in India, we cannot see that any particular purpose was served by this portion of the address. The concluding portion of the address contained advice of a rather commonplace character to those that intended to follow the professions of Law, Medicine, Engineering and Teaching and pious expressions of hope about the probable development of University work in the future and lastly an appreciation of the "noble and whole-hearted devotion with which

continued there for a little over two years. He made such rapid progress during the period that he almost finished his vernacular education, according to the old syllabus. He made some attempts at learning English, but they proved abortive.

In the year 1884, when he was thirteen years old, he went with an elder brother to Bangalore and resumed his studies there. He made very rapid progress in the study of English and ere long passed the late Middle School examination in the first class from a Hindu School in the Bangalore Cantonment. He joined the Matriculation class the same year in the St. Joseph's College, Bangalore, and completed the course by passing the First-in-Arts Examination. He then joined the B.A. class in the Central College, Bangalore, and graduated in 1893, curiously enough with Physics as his optional subject. He entered the Education Department of the Mysore State in June 1893; and thus has put in a service of nearly 21 years in the Department.

Mr. Krishnaswamy, like most men of ability at his age, seems to have taken some time before he discovered himself. For he changed from the study of Physics to the study of Mathematics and ultimately took to the study of History, fortunately for students of History in India. He passed the Master of Arts Degree Examination in History in 1899. He had ambitions to take another Master of Arts Degree in English but ill-health prevented him from realising it. He almost immediately turned to research

work, being encouraged thereto by the way in which his dissertation was received, among others, by the late Professor Kellett of the Madras Christian College.

His first paper was the "Chola Ascendancy in Southern India." It was very favourably received by Dr. E. Hultzsch, Mr. Kellett and others competent to express an opinion on the matter. Mr. Kellett wrote: "It is a piece of thoroughly good work such as I hope Indian students of History will take up more frequently in future. It is, I think, the best exposition yet, of the period with which it deals. I hope you will do more work of the kind." And we may add that it still remains the best exposition of the period and that the hope expressed in the letter has been amply fulfilled.

Mr. Krishnaswamy was elected a member of the Royal Asiatic Society on the motion of the late Mr. R. C. Dutt, the well-known scholar and writer, who wrote to Mr. Krishnaswamy to say that his papers on the Cholas were "good and scholar like." He soon published his "Chola Administration" and thus began his regular work in the field of historical research. He was elected a member of the Royal Historical Society on the motion of distinguished men like Professor Rhys Davids and H. H. the late Valia Koil Tampuran of Travancore.

In 1904, Mr. Krishnaswamy delivered his first lecture at Madras before the South Indian Association "The Making

India has rallied round the British flag."

The last meeting of the Legislative Council almost completely ignored educational questions. This is not surprising seeing that there is no educationist among the Indian members of the Council. The Honourable Mr. Narasimha Iyer elicited some interesting information about schools in criminal settlements and besides asked why a certain man was not made Headmaster of a Taluq Board High School. The Honourable Mr. A. T. Marakayer enquired about some trouble in the matter of prayers in a Muhammadan Girls' School and suggested the starting of an industrial school at Negapatam. The Honourable Mr. Narasiah Raju elicited the fact that vernacular continuation schools were unpopular. A formal measure validating the utilization of Tirupati Temple funds for educational purposes was passed. This practically exhausts the educational topics that were dealt with at the Legislative Council. Education being one of the important of the activities of the Government it is a great pity that apparently there are no people in the Council willing or able to scrutinize the educational administration of the year and discuss lines in which it is susceptible of improvement.

Through the generous educational policy of the Government of India, the Universities tend soon to become what they ought to be: centres of culture and learning. The Universities are entering on a fruitful period of their career as they cease to be merely examining bodies and become, in however imperfect a way, centres of learning and culture. In response to this general tendency, the University of Madras has made provision for three Professorial chairs, two of which have been already filled up and the third will soon be. In no case has the choice been better deserved than in the appointment of Professor S. Krishnaswamy Iyengar to the chair of Indian History and Archaeology.

Mr. S. Krishnaswamy Iyengar is an acknowledged authority on South Indian History, an accomplished Tamil scholar, an earnest worker in the field of research, and, above all, an enthusiastic votary of knowledge, whose one ambition is that he may be privileged to add some pages to the more obscure part of the history of his country.

Professor S. Krishnaswamy Iyengar hails from that part of the country which has earned the distinction of being the birthplace of many a great man in South India. He was born at Sakkottai, a village near Kumbakonam, in the Tanjore District, on the 15th April 1871. As usual in those days, and even to-day, in villages, young Mr. Krishnaswamy was first introduced to the realms of knowledge in the Primitive Pial School. He



MR. S. KRISHNASWAMI AIYANGAR, M.A., M.R.A.S., F.R.H.S.
University Professor of Indian History and Archaeology, Madras.

of Mysore" under the presidency of Sir S. Subramanya Iyer. And the South Indian Association may well congratulate itself on having been the means of introducing him to the Madras public as a scholar of eminence. He was appointed an Assistant Examiner by the University and continued in that capacity for four years.

These were fruitful years when Mr. Krishnaswamy wrote a number of papers on some of the details in Tamil Literary History and finally published "The Augustan Age of Tamil Literature." It was about this time also that the "Life of Ramanuja" was written. The University Syndicate nominated him a member of the Board of Studies in History and Economics as soon as the New Regulations came into force, and he has continued there ever since. The next year he became a member of the Board of Examiners in History and Economics. After having served during 1895-1900 in various High Schools in the Mysore State, Mr. Krishnaswamy reverted to the Central College in 1900 and became Lecturer in History in 1904. He was lecturing for a few years before 1910 in English when he was transferred to the Administrative Branch of the Department as Assistant to the Inspector-General of Education. He continued in that capacity till the beginning of the academical year 1913-14, when he returned to the Central College again, this time as Professor of English.

In 1911, most of his contributions to the study of South Indian History were

gathered together by him and published as a collection of essays, entitled "Ancient India" which was very well received. Dr. A. F. R. Hoernle wrote that it was a very creditable performance and that he promised to himself much pleasure and no less profit from the reading of it. Dr. G. A. Grierson wrote: "I can see clearly that *Ancient India* is a most interesting book, and that I shall profit much from its perusal." Sir S. Subrahmanya Iyer wrote: "It is scarcely necessary for me to add that your literary work will bring credit to your Alma Mater." Dr. Hultzsch wrote acknowledging a copy of "your interesting volume on *Ancient India* in which you have treated in a masterly manner several problems of South Indian History.....Let me congratulate you on the vivid manner in which you have arranged and represented the *disjecta membra* of historical information.....I shall often consult your volume." *The Times of India* wrote: "This is a noteworthy book in many respects. It is a proof that the historical spirit is beginning to take hold of highly-educated Indians, who can do invaluable work in throwing light on the obscure chapters of Ancient Indian History."

The volume has been helping workers in the field, the matter having been made use of by standard writers on Indian History, notably by Vincent A. Smith, the learned author of the *Early History of India*.

Mr. Krishnaswamy has been prolific in

his writings and has identified himself with the few learned societies in this part of the country. He is a former President of the South Indian Association and a prominent member thereof. He is among the few foundation members of the Mythic Society in Bangalore, formed with the object of encouraging the study of the sciences of Ethnology, History, and Religions, and stimulating research in these and allied subjects. He has been mainly responsible for the good work of the Society, as a perusal of the Quarterly Journal of the Society will show. Almost all his writings subsequent to 1911 are published in the Journal. As a fitting recognition of Mr. Krishnaswamy's services in the cause of education and culture, he was nominated a Fellow of the University of Madras by H. E. the Chancellor in January 1912.

In his Introduction to "Ancient India," Mr. Vincent A. Smith wrote, "It would be easy to name many recent Indian authors who have made important and solid contributions to accurate knowledge of the Early History of India. Among such writers, Mr. Krishnaswamy Iyengar holds an honourable place and if he had leisure greater than that which official duties permit, he might, perhaps, produce that *Early History of Southern India* which is so much wanted and can be written only by a scholar familiar with the country and one or more of the Dravidian vernaculars." Now that Mr. Krishnaswamy Iyengar has got that leisure, thanks to the discrimination with which

the University have made their choice, we may confidently look forward to the production of the work like the one hoped for by Mr. Vincent A. Smith.

The Hon. Sir John Wallis, Vice-Chancellor of the University, when moving the Resolution for his appointment rightly observed, "Mr. Krishnaswamy Iyengar is very well-known for the good work he has done and I am glad to be able to say that Mr. Krishnaswamy Iyengar has been recommended by Mr. Vincent Smith and another eminent Professor who are the two most competent authorities to speak upon the subject. There were other candidates who had claims in certain ways. But the Syndicate came to the conclusion that Mr. Krishnaswamy Iyengar was the best man for the post."

We offer our hearty congratulations to Professor S. Krishnaswamy Iyengar on his accession to this position of importance. We have no doubt that he will prove that the honour could not have been better bestowed. Mr. Krishnaswamy belongs to the rare class of men who have already removed and will continue to remove the charge of want of originality that used to be ascribed to the educated Indian. We wish him a brilliant and distinguished career as the University Professor of Indian History and Archaeology which is a fitting climax to a life consecrated from its early years to the study of the History of India.

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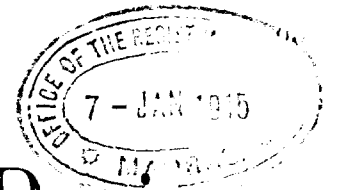
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THE MODERN THEORY OF RATIONAL AND IRRATIONAL NUMBERS.

(Continued from page 704.)

Properties of the Rational System R.—Before passing on to irrational numbers, I shall go over some of the main properties of rational numbers, in particular such properties as are required in the development of the theory of irrational numbers. We shall denote the system of rational numbers by R.

1°. The system R is self sufficient with regard to the four rational operations, viz., the operations of addition, subtraction, multiplication and division (division by zero excepted). That is to say, these operations performed on any two elements of R lead to an element in R itself. It is not so in the case of integers.

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2°. The operation of evolution, i.e., the operation of extracting any root of a rational number is not in general a possible one in the rational domain. For example take the problem of finding the square root of 2. There is no rational square root.

Proof.—If possible let $\frac{a}{b}$, a fraction in its lowest terms, be the square root; then $\left(\frac{a}{b}\right)^2 = 2$ or $a^2 = 2b^2$; since a and b are relatively prime, $a^2 = 2$; a being an integer $a^2 = 2$ is absurd.

It is this limitation to the operation of evolution that has led to the extension of the domain of number by the introduction of irrational numbers.

3°. Let the system R be arranged in order of magnitude so that if $a > b$ and $b > c$, we may say that b lies between a and c . If R be so arranged it will be found that between any two numbers a and b , however close they may be, there is always a rational number and hence an endless series of rational numbers. For, $a + m(b - a)$ lies between a and b whatever m be, provided it is a positive quantity less than unity. This fact is generally expressed by saying that the system R is dense.

4°. Though the rational system R may be supposed to be arranged in order of magnitude, when so arranged, with regard to any given rational number we cannot say which particular number is its immediate predecessor or immediate successor. In particular, however small

a may be (a being $+ve$), we can find $a + \epsilon$ number smaller than a , and however large a may be, we can find a number greater than a .

5°. The system R is such that however small a may be, we can always find an integer n such that $na > b$, whatever b may be.

For let $a = \frac{p}{q}$, choose n so great that $n > bq$ then $na > pb > 0$ or $= b$.

Conversely however large a may be we can find an n such that $\frac{a}{n} < b$, however small b may be. For, you can always find n such that $nb > a$, i.e., $\frac{a}{n} < b$.

Such a system is called an *Archimedian* system.

6°. If a be any rational number, then all other rational numbers fall into two classes (A_1, A_2) one class A_1 consisting of all numbers less than a and the other class A_2 consisting of all numbers greater than a . And a itself may be assigned to either of these classes; if assigned to A_1 , a becomes the greatest number in A_1 and if assigned to A_2 , a becomes the least number in A_2 . Corresponding to every rational number we have thus a separation of all rational numbers into two classes (A_1, A_2) such that each element of A_1 is less than each element of A_2 .

Comparison with the points on a line.—These properties of rational numbers recall to one's mind the corresponding relations of position of the points on a straight line (we shall denote the line by L .)

From a point on the line you can move along the line in two opposite directions. If these directions be distinguished as right and left, we have the following relations in respect of the points on the line L .

1°. If p and q are two points, then either p is to the left of q or p is to the right of q . Also if p is to the left of q and q to the left of r , then p lies between p and r .

2°. Also if p and q are two distinct points then there are an unlimited number of points between p and q . Also if PQ be any length we can find a length smaller than PQ or greater than PQ .

3°. If p is a definite point in L , then all points on the line L fall into two classes (P_1, P_2); P_1 containing all points to the left of p and P_2 containing all points to the right of p . And p itself may be supposed to belong to either of the classes. Thus corresponding to any point there is a separation of all the points on the line into two classes (P_1, P_2) such that each point of P_1 is to the left of each point of P_2 .

This close comparison between the properties of rational numbers and the relations of position of the points on a line L may be made into a real correspondence in the following manner:—

Take any point O on L as origin, a length OA_1 as unit of length taken to the right of O ; and imagine that $OA_2, OA_3, \dots$ etc., are taken on L to the right of O such that OA_2 is twice OA_1 , OA_3 thrice OA_1 and so on. Then the points $A_1, A_2, A_3, \dots$ may be supposed to represent the numbers 1, 2, 3, Further if we have any fraction $\frac{p}{q}$, we may imagine OA_1 divided into q equal parts and OP taken, equal to p such parts, on the line L to the right of O . Then P may be considered as representing the fraction $\frac{p}{q}$.

Similarly corresponding to any fraction you may have a point in the line L . If lengths be supposed to be measured as above to the left of O we get negative numbers represented by points. O itself may be taken to represent zero. Thus we can have every number of the rational system R represented by a point on the line L . Such points we shall call *rational points*.

Continuity of a line.—Let us study a little more closely the relation of rational points to the straight line L on which they are marked.

Since there are an unlimited number of rational numbers between any two rational numbers a and b , however near they may be to one another, provided they are different, we can easily see that we can cover the straight line on which we have marked the rational points as closely as we please. In other words if we take any segment BC (however small) on L we can find as many rational points as we please on BC . Suppose for example that BC falls within the segment A_1A_2 , if we choose a positive integer k so that $k \cdot BC > A_1A_2$ and divide A_1A_2 into k equal parts, at least one of the points of division (say, P) must fall within BC . Thus at least one rational point P lies between B and C . Similarly we can find another such Q between B and P , another between B and Q and so on. We may express this by saying that BC contains infinitely many rational points.

From these considerations you may be led to conclude that these rational points account for all the points on the line L , i.e., that every point on the line is a rational point. Certainly if the line consisted only of rational points (all other points, if there be, being eliminated) it would possess most of the properties which common sense attributes to the straight line and would look and behave very much like a line.

There is however good reason to suppose that the line contains many points which are not rational points. For example, on the segment OA_1 as a side describe a square and draw the diagonal OD of that square. With O as centre and OD as radius describe a circle cutting L in P . Then if the measure of OP be a rational number, we have $OP^2 = OD^2 = 2OA_1^2 = 2$. But there is no rational number whose square is 2. Thus here is a point P on the line which corresponds to no rational number, i.e., P is not a rational point. Similarly you can show that there are an unlimited number of points on L which are not rational points. In other words, the line L is infinitely richer in point-individuals than R is in number-individuals.

Thus this comparison of the ordered system of rational numbers with a straight line leads us to a recognition of the existence of gaps, of a certain incompleteness or discontinuity of the former, while common sense or spatial intuition ascribes to the straight line completeness, absence of gaps or continuity.

In this we recognise the inadequacy of the rational system R to serve as a scientific basis for the theory of limits or 'mathematical analysis' in general where you meet with expressions such as "as a variable increases or decreases continuously."

Creation of irrational numbers. We thus find the necessity to extend the domain of numbers from two points:

(1) To remove the limitation in respect of the operation of evolution.

(2) To secure a completeness or continuity in the domain in which a variable may vary. Now to widen the number system so as to meet both these demands, we follow up arithmetically all the phenomena in the straight line assuming it to be continuous. Then the question arises as to what is meant by saying that a straight line is continuous. By this we only mean "If all points of the straight line fall into two classes such that every point of the first class lies to the left of every point of the second class, then there exists one and only one point which produces this division of all points into two classes, this severing of the straight line into two portions."

This may appear obvious and a common place remark; but still it is this that has revealed the secret of continuity; and the obviousness is taken as an argument to regard this as an axiom.

Following up this notion of continuity Dedekind defines the real numbers (numbers rational and irrational) thus:

Definition of real numbers.—Every cut in the ordered system of rational numbers defines a real number. That is, to every section or separation

of the aggregate R of rational numbers into two classes (R_1, R_2) such that every number of R belongs to one or other of the two classes and every number of R_1 is less than every number in R_2 , there corresponds a real number.

In case either R_1 has a greatest number (say, x) or R_2 a least number (x) then the section defines the rational number x .

Irrational numbers. In case neither R_1 has a greatest number nor R_2 a least number, the number defined by the cut (R_1, R_2) is said to be an irrational number.

That there are such sections corresponding to rational numbers we have already seen.

That there are sections (R_1, R_2) where R_1 contains no greatest number and R_2 contains no least number can be seen from the following example:—

If m is a +ve integer which is not a square number, then the rational numbers may be divided into two classes (R_1, R_2) ; R_1 containing all numbers whose squares are less than m and R_2 containing all numbers whose squares are greater than m . R_1 has no greatest number, R_2 has no least number and this cut defines the irrational number $\sqrt{m}$.

Some logical objections may be raised to the above definition (for which objections vide B. Russel's 'Principles of Mathematics'); and the definition can be put into a slightly different and more satisfactory form by employing the notion of a lower segment of the aggregate R of rational numbers.

A lower segment of the aggregate R of rational numbers is "any class of rational numbers which contains no number greater than all the others and such that if any number whatever of the class be taken, the class contains all those numbers of R which are less than that number." A lower segment of R is identical with Dedekind's class R_1 provided R_1 contains no greatest number.

A real number may be defined to be "a lower segment of the aggregate R of rational numbers"; and thus every real number whether rational or not is a definite class of rational numbers.

According to this definition, the real number 5 is the aggregate of all rational numbers of R less than 5.

The irrational number which we call $\sqrt{2}$ is the aggregate of all rational numbers of R whose squares are less than 2.

Though this definition is more satisfactory, from a logical point of view, than Dedekind's cut; I believe Dedekind's cut will be better suited to an elementary exposition of irrational numbers.

Ordering of the system. Having defined the real numbers we proceed to arrange them in an order; so that of any two real numbers we may be able to say which has the higher rank and which the lower rank. We shall denote the system of real numbers by $\bar{R}$.

The rational system R being a part of the system $\bar{R}$ of real numbers, we naturally base this ordering of the system $\bar{R}$ on the ordered system R . Let n, n' be any two real numbers and let the sections by which they are defined be $(R_1, R_2), (R'_1, R'_2)$ respectively. Then the following cases may arise:—

(1) The aggregate R_1 may be identical with the aggregate R'_1 ; then R_2 will be identical with R'_2 hence the cuts are identical in which case we say $n \equiv n'$.

(2) R_1 may contain only one number r_1 not contained in R'_1 . This r_1 will be in R'_2 ; we shall call it, being in R'_2 , r'_2 , i.e., $r_1 \equiv r'_2$. All the numbers in R'_1 are less than r'_2 ($\equiv r_1$). $\therefore$ all numbers in R'_1 are in R_1 (which contains all numbers less than r_1) and r_1 is the only number in R_1 which is contained in R'_2 and is $\therefore$ greater than all the other numbers in R_1 , i.e., R_1 has a greatest number, viz., r_1 . Thus the number n defined by the cut (R_1, R_2) is the rational number $r_1 \equiv r'_2$. Similarly it may be shown that r'_2 is the least of all numbers in R'_1 and $\therefore$ the number n' defined

by the cut (R'_1, R'_2) is the number $r'_2 \equiv r_1$ or $n \equiv n'$.

3. R_1 may contain more than one number not contained in R'_1 but contained in R'_2 , then there must be at least two different numbers in R_1 and $\therefore$ an unlimited number of numbers in R_1 not contained in R'_1 , then we say that the cut (R_1, R_2) or the number n is greater than the cut (R'_1, R'_2) i.e., the number n' .

Similarly we will have $n = n'$ if R'_1 contains only one number not contained in R_1 and $n < n'$ if it contains more than one number not contained in R_1 .

Properties of real numbers—We shall denote real numbers by the great letters α, β , &c., and the rational numbers by a, b , &c.

1°. If $\alpha > \beta$ and $\beta > \gamma$, then $\alpha > \gamma$, evident from the above method of ordering the system.

2°. Between any two real numbers α and γ there are an unlimited number of real numbers. This is easily proved from the corresponding property of rational numbers by considering the sections defining the given real numbers.

3°. If α is a definite real number, then all real numbers fall into two classes $(\bar{R}_1, \bar{R}_2)$ such that $\bar{R}_1$ contains all numbers less than α , and $\bar{R}_2$ all numbers greater than α ; and α itself may be assigned to $\bar{R}_1$ in which case it is the greatest number in $\bar{R}_1$ or to $\bar{R}_2$ in which case it is the least number in $\bar{R}_2$.

4°. If the aggregate $\bar{R}$ of real numbers falls into two classes $(\bar{R}_1, \bar{R}_2)$ such that every number of $\bar{R}$ is either in $\bar{R}_1$ or in $\bar{R}_2$ and that every number in $\bar{R}_1$ is less than every number in $\bar{R}_2$, then there exists one and only one number which produces this section or cut of real numbers.

Proof.—The section $(\bar{R}_1, \bar{R}_2)$ of the aggregate of real numbers also defines a section (R_1, R_2) of the aggregate of rational numbers such that R_1 contains all rational numbers in $\bar{R}_1$ and R_2 all rational numbers in $\bar{R}_2$. Let a be the perfectly

definite number which produces this cut $(\bar{R}_1, \bar{R}_2)$. If β be any real number different from a , then there are as shown above infinitely many rational numbers c lying between a and β . If $\beta < a$, then $c < a$; hence c belongs to the classes R_1 and consequently also to the class $\bar{R}_1$ and since $\beta < c$, β also belongs to the class $\bar{R}_1$ because every number in $\bar{R}_2$ is greater than any number γ in $\bar{R}_1$. Similarly if $\beta > a$, it can be shown to belong to $\bar{R}_2$. Thus every number β different from a can be shown to belong either to $\bar{R}_1$ or to $\bar{R}_2$ according as $\beta < a$ or $\beta > a$. $\therefore a$ itself is either the greatest in $\bar{R}_1$ or the least in $\bar{R}_2$, thus a is one and the only number by which the separation of $\bar{R}$ into the classes $(\bar{R}_1, \bar{R}_2)$ is produced.

This proves the property of continuity of the ordered system of real numbers.

Operations with the real numbers.—1°. *Addition.* Let α, β be two real numbers defined respectively by means of the sections (A_1, A_2) and (B_1, B_2) of rational numbers then the sum (denoted by $\alpha + \beta$) of α and β is the number γ defined by the section (C_1, C_2) which satisfies the following conditions:—If c_1 be any number, it is put into the class C_1 provided there are two rational numbers a_1 in A_1 and b_1 in B_1 such that $a_1 + b_1 \geq c_1$. All rational numbers c_1 for which this is not the case are put in C_2 . Since every rational number c_1 put in C_1 on this principle is less than every number in C_2 , it is clear that this separation of all rational numbers into the two classes C_1 and C_2 forms a cut.

It can be shown that when both α and β are rational, say, a and b , their sum as given by this definition of addition is the same as the sum $a + b$ given by the definition of the sum of two rational numbers. Every number c_1 in C_1 is $\leq a_1 + b_1$ and because $a_1 \leq a$, $b_1 \leq b$, and $c_1 \leq a + b$. Further if there were contained in C_2 a number $c_2 < a + b$, so that $a + b = c_2 + p$ where p is a +ve

rational number, we should have $c_2 = (a - \frac{1}{2}p) + (b - \frac{1}{2}p)$ and this is contrary to the definition of c_2 because $a - \frac{1}{2}p$ belongs to A_1 and $b - \frac{1}{2}p$ belongs to B_1 . Thus every number c_2 in $C_2 \geq a + b$. Consequently the section (C_1, C_2) defines the number $a + b$.

2°. *Multiplication*.—Here we confine ourselves to positive real numbers. Let α, β be two positive real numbers defined by the sections (A_1, A_2) and (B_1, B_2) respectively; the product (denoted by $\alpha \times \beta$) of α and β is the real number γ defined by the cut (C_1, C_2) satisfying the following conditions. If c_1 be any rational number, it is put into class C_1 provided there exists two rational numbers a_1 in A_1 and b_1 in B_1 such that $c_1 \leq a_1 b_1$; and all rational numbers c_2 for which this is not the case are put in C_2 . Since this guarantees that every $c_1 >$ every c_2 , this separation clearly forms a cut.

If α and β are rational numbers say, n and b , then it can be shown as in the case of addition that the product as given by this definition gives the product ab given by the ordinary definition of the multiplication of rational numbers.

By way of example consider $\sqrt{2} \times \sqrt{3}$. $\sqrt{2}$ is the cut, say (A_1, A_2) , of rational numbers, i.e., A_1 contains all +ve rational numbers whose squares are less than 2, and A_2 contains all the other +ve rational numbers. Similarly $\sqrt{3}$ is a cut, say (B_1, B_2) , i.e., B_1 contains all +ve rational numbers whose squares are less than 3 and B_2 contains all the other +ve rational numbers. Then $\sqrt{2} \times \sqrt{3}$ is the number defined by the cut (C_1, C_2) where C_1 contains all +ve rational numbers $c_1 \leq a_1 b_1$ where a_1 is any number in A_1 and b_1 any number in B_1 , and C_2 contains all other +ve rational numbers. Then $c_1^2 \leq a_1^2 b_1^2$; but $a_1^2 < 2$ and $b_1^2 < 3$. $\therefore c_1^2 < 6$; also the square of any number of C_2 can be shown to be greater than 6. Thus the cut (C_1, C_2) according to our definition, gives $\sqrt{6}$. Hence we have $\sqrt{2} \times \sqrt{3} = \sqrt{6}$.

By remembering the rule of signs, we can easily define the product of any two real numbers α and β whether they are +ve or -ve.

Subtraction and Division could be defined respectively as the inverse of addition and multiplication.

Note.—It should be clearly noted that in the above exposition, though lines and segments of lines were introduced for analogy and illustration, neither the definition of irrational numbers nor the subsequent development of the theory involves any notion of extensive magnitude or their measurement; also that the definitions of operations on the real numbers involve only rational numbers and operations on rational numbers.

Such is the nature and development of the *Arithmetical continuum* on which modern analysis is based.

PROGRESS OF EDUCATION IN COCHIN—A HISTORICAL REVIEW.

Part II—Period of Drift (1890—1907).

I

(Continued from page 711).

THE period (1890—1907) is indeed one of drift in the matter of departmental organisation and educational policy. In connection with the constitution of the Department a series of hapless experiments was tried during the period, as a result of which the Department was left with a rickety organisation quite inadequate to the requirements of education in the State. It was left to the statesmanship of Mr. A. R. Banerji to rescue the department from the slough into which it had fallen and restore it to a condition of vigour and vitality.

It has already been stated that in 1876 Mr. A. F. Sealy had been appointed Director of Education and that the various District Schools of the State had been placed under his jurisdiction. Since before 1890, little was done by the State for the develop-

ment of Vernacular Education, no need was felt for a long time for any special agency with regard to it. It may therefore be seen that, down to 1890 there was one single responsible head for the Educational Department, one single responsible advisor on educational matters—viz. the Director. Although it was seen by many that, as Principal it was hardly possible for Mr. Sealy to spare sufficient time or attention for his steadily increasing duties as Director, still the system worked with fair efficiency. One bright feature of the system which accounted for its success was the concentration of authority and of responsibility in the hands of a single individual.

In 1890, a Department of Vernacular Education was formed and placed under the control of a Superintendent. It was realised by the then Dewan of the State—Mr. C. Tiruvenkatachariar—who was keenly interested in the educational progress of the State, that the time had come for the deliberate activity of the Government in the matter of elementary vernacular education. Accordingly in 1890 several Vernacular schools were opened in several parts of the State and Grants-in-Aid ordered to be given to private schools. With reference to the constitution of the Department the Dewan made the following remarks:—"The whole Department will be placed under the control of an officer to be called the Superintendent of Vernacular Instruction who will be assisted by one or more Assistant Superintendents and a staff of clerks. As the aided schools require special and frequent inspection owing to the masters themselves being new to the sort of work

* Dewan Tiruvenkatacharya's memorandum for the development of Vernacular education. (27-3-1890)

required, a staff of 4 Inspecting Schoolmasters will have finally to be appointed." The result of this measure was that, in the place of one, two separate and independent agencies were created for the control of the education of the State—one for the control of Vernacular education and one, for that of Anglo-Vernacular education. In other words, a system of divided responsibility was instituted—an unfortunate arrangement. It appears that Mr. Sealy objected to the creation of an independent agency and he was supported by the British Resident who wrote to the Dewan as follows:—"I do not think that the superintendence of the Vernacular schools should be separated from the control of the Director of Education. It is not done in British India where the whole system of education is under the general control of one head, a measure which ensures the harmonious working of the whole system. The Director of Public Instruction of Madras is however aided and supported by a very large staff of able men and he is not hampered by any other duties."

From a year's working of the system the Dewan himself became convinced of the evils inherent in it, and in his letter dated 6th October 1891, he made proposals for a thorough re-constitution of the whole Department. This is what the Dewan wrote:—"Mr. Sealy is Director of English Education in addition to his being the Principal of the Ernakulam College. This arrangement of giving double duties to one officer, does not work satisfactorily. And the placing of Anglo-Vernacular and Vernacular education under two distinct heads is also reproductive of friction and collusion. For these reasons I suggest the aboli-

* Mr. Hannington's letter to the Dewan (14-5-1890).

tion of the posts of Director of Education and Superintendent of Vernacular Education. As in Mysore the Dewan will take up the direction of all education in the State—Anglo-Vernacular and Vernacular—and I propose that there should be an Educational Secretary to assist him. For inspection of schools in the State, both Anglo-Vernacular and Vernacular, Government and Aided—a Superintendent of Education will be appointed and he will be authorised to inspect all schools except the Ernakulam College.”

The scheme of re-organisation, sketched above, was carried into effect on the retirement of Mr. Sealy in Jan. 1892. Mr. D. Cruickshank who then succeeded as the Principal of the College was made Educational Secretary to the Dewan and all the schools of the State—Anglo-Vernacular and Vernacular—were placed under the charge of a Superintendent of Education who was given two Deputy Superintendents and Inspecting Schoolmasters to assist him. This arrangement was, to a certain extent, an improvement on the old system since, in the first place, by the concentration of all inspecting work in the hands of a single responsible agency, the friction and collusion referred to by the Dewan were avoided and since, further, the Principal of the College was relieved of his heavy duties as Director. However, this arrangement too was not free from defects. In the first place, the Principal was given double duties by being appointed Educational Secretary and this could not but interfere with the efficiency of the College. In the second place, the abolition of the Director's place was certainly a retrograde measure since the Dewan was consequently left without an expert educational advisor. The Dewan took upon himself the duties of a Director—an

unwise step since it would be hardly possible for a Dewan to spare sufficient time for such duties and since, further, it was not every Dewan that could be expected to possess the knowledge, and the experience necessary for a successful handling of educational questions. As for the Educational Secretary, he was not appointed as an Advisor to the Dewan but only as an agent for carrying on routine business. Consequently, the system established by Dewan Tiruvenkatachari, in spite of certain laudable features, stood in need of improvement in certain directions.

However, as if by a strange irony of fate, not only were the necessary improvements not introduced but the evils against which Dewan Tiruvenkatachari had guarded, were revived and aggravated. The system having worked for 5 years, it was found that there was a steady increase in the work of the Superintendent and that he should be afforded some relief. What should have been done in the interests of unity of control and efficiency of organisation was to strengthen his department with a view to enable him to cope with the increasing work. What was actually done was that according to the proposals of the Educational Secretary, certain schools were withdrawn from the control of the Superintendent and placed directly under the Dewan. More and more of schools were withdrawn during the succeeding years. The inspection of these schools was left to be done by an officer appointed by the Dewan every year. Year after year, the Vice-Principal of the College was deputed for the work. As a result of these arrangements, a bifurcation of authority and control was introduced with regard to the institutions of the State—an evil against which Dewan Tiruvenkatachari had carefully

guarded in drawing up the scheme of 1892. This duplication of control, this division of responsibility could not but prove detrimental to the harmonious progress of education in the State. Further, the efficiency of the College was still further impaired by the allotment of double duties to the Vice-Principal also. There were in fact three independent authorities acting under the Dewan and controlling the education of the State—the Educational Secretary, the yearly Inspecting Officer and the Superintendent—each moving in a narrow groove and suggesting his own changes and reforms, without any attempt at securing a consistency of aims, and methods in the working of the Department. Chaotic, indeed, was the system that obtained.

On the retirement of Mr. Cruickshank in 1902, the post of Educational Secretary too was abolished. Strange as it may appear, the development of State-controlled education in Cochin was followed not by a corresponding development of departmental machinery but by its further and further contraction. By Dewan's Proceedings dated 7-10-1905, Mr. Davies, the Principal of the College, was made Special Inspecting Officer. In that capacity he was allowed to call for the services of the Deputy Inspectors and Inspecting Schoolmasters whenever available. He was further authorised to call for reports and returns bearing on his inspection work but he had no authority to correspond with Headmasters in regard to such matters as the appointment and transfer of teachers, the management and discipline of schools, the extension and repair of school-buildings, supply of books, furniture, apparatus, etc. The objectionable features of this arrangement were pointed

out by the late Dewan of Cochin as follows* :—

“(1) Although it must be conceded that the inspections made by the Special Educational officer, since his appointment, have produced may beneficial results, it cannot be gainsaid that, by the appointment, the Educational Department of the State has been practically bereft of a responsible head and the position which had been under the old scheme of 1891, conferred on the Superintendent of Education has been withdrawn with the result, that he became responsible merely for inspection work of a certain class of institutions and had his sphere of duties and responsibilities gradually encroached upon by the Special Inspecting officer.....(2) Moreover the Special Inspecting officer had naturally, owing to increase in the work that was assigned to him, to depend a great deal on the assistance of the subordinates of the Superintendent and thus a dual authority was established over these men.....(3) Nothing could be more detrimental to the efficiency of the College than to burden the Principal with such duties as would necessitate his leaving the College on inspection duty entrusting his work to others; (4) Under the present system the Government gets very little assistance by way of advice from the Special Inspecting officer.....”

Every word of the above passage is true. The Special Inspecting officer was certainly not wanting in ideas and ideals, in energy and enthusiasm. But the system under which he worked was bad. It must however be said to his credit, that, in spite of the limitations under which he worked, not a little

* Mr. A. R. Banerji's Press Communique on Education, p. 7.

was done by him, during the brief term of his office, to stimulate and improve the education of the State.

When Mr. Banerji succeeded to the Dewanship of Cochin in 1907 the organisation of the Educational Department was therefore anything but satisfactory. It was left to this indefatigable Dewan to place the constitution of the Department on a healthy and efficient basis by drastic measures of reform.

II

It has already been stated that in the year 1890, a Department of Vernacular Instruction had been created with a view to the expansion of elementary vernacular education in the State. This had immediately been preceded by the publication of a Grant-in-Aid Code. By this, grants varying from $\frac{1}{2}$ to $\frac{1}{4}$ according to the grade of the teachers were sanctioned for private schools and half grants sanctioned towards the expenses of buildings, libraries, furniture, etc. Specially favourable terms were however granted in the case of Girls' Schools and Technical Schools. Small grants were also allowed in the case of purely Vernacular schools.

Thanks to the efforts of the newly-created Department a good many Vernacular schools were opened in several parts of the State. During the period under review, there also took place a slow but steady increase in the number of Aided Vernacular schools. Whereas in 1891 the Sirkar and Aided Vernacular schools numbered about 23 and 53 respectively, 16 years later they numbered about 41 and 149, i.e. nearly twice and thrice respectively. It may therefore be seen that during the period there took place an expansion of State-controlled Vernacular education

in the State although the progress achieved was slow, halting and inadequate.

At the very commencement of the period, having regard to the development of State-controlled elementary education, the need was recognised for the starting of a Normal School in the State for the supply of trained teachers. Accordingly was opened in 1890, a Vernacular Normal School at Trichur with a modest system of stipendiary scholarships and a modest practising section, consisting of five classes, attached to it. In course of time, the Practising Section was raised to the full Lower Secondary Standard. Having been moulded into a certain shape, the school appears to have been neglected by the Durbar so much so that it gradually deteriorated and, on the eve of its re-organisation in 1910, was reported by the Special Educational officer to be in a notorious state of inefficiency "with the system faulty, the organisation bad, and the equipment and surroundings.....unwholesome and lowering from an educational point of view."*

Although the increase in the number of schools—State and Aided—may lead one to expect an increase in the proportion of literates during the period, the melancholy fact has to be recorded that, on the other hand, there was observable a decline in that respect. While in 1891, the proportion of literates was 240 in a thousand, in 1901 it had fallen to 224. During the next decade however it appears to have gradually risen seeing that the proportion recorded by the Census of 1911 was 243.†

* Letter dated 20-12-1909 from the Special Educational officer to the Dewan submitting a scheme for the re-organisation of the Training Schools.

† Cochin Census Report 1911, p. 55, Subsidiary Table V.

This however cannot come as a surprise to those who realise what an important share the Pial schools had contributed to popular education in old days and how adversely they were affected by the educational policy inaugurated in 1890. Referring to this decline, the following comment appears in the Census Report for 1901* :—

"With the introduction of the Grant-in-Aid system in 1889 and the opening of a separate department in 1890 for the spread of Vernacular education, an impression began to gain ground that the Government had taken up the education of the children into its own hands. The village schools gradually began to disappear until at last they have ceased to exist altogether in towns while they continue but as dwindling survivals in rural parts. The introduction of the Grant-in-Aid Code which prescribed certain qualifications for the teachers unseated the old village school Asans from their position of honour without their position being taken up by the schoolmasters....." This had in a way been foreseen by the Census Superintendent of 1891 who, with a view to avert the evil, had strongly advocated the policy of "conserving existing Pial schools and then gradually effecting improvement in the matter and manner of the instruction given in them."†

It is a pity that the policy advocated by the Superintendent was not followed in subsequent years. The attention of the Durbar was however called, from time to time, to this important matter, by the British Resident as well as by the Madras Government. In reviewing the Administration

Report for 1901-1902, the Madras Government expressed the opinion that "it is most desirable that these unaided institutions should be recognised and brought under control and for effecting this object the Durbar might with advantage consider whether it is not possible temporarily to relax the rules in this respect." These proposals were repeated year after year. It however appears that for many years, no definite policy was adopted by the Durbar to carry out these suggestions.

It may be observed in this connection that the diminution in the proportion of male literates during the period was, however, to some extent, compensated for by the superior quality of the instruction imparted in the schools controlled by the State.

III

In spite of the retrogression, during the period, in the general literacy of the State there was a decided advance in the matter of English literacy. Thanks to the Grants-in-Aid system instituted in 1889, there sprang up a number of Aided Anglo-Vernacular schools in the State during the period. There was also an increase in the number of the Sirkar schools. In 1890 the number of the Anglo-Vernacular schools of the State stood as 6 (Sirkar) and 19 (Aided). In 1906 the number had risen to 14 and 34 respectively.

During the decade following 1891, it may

be seen from the marginal statistics that the number of English literates among males as well as among females increased about 4 times. English education was however confined as it is even to-day, to just a few sections among the population, viz., to the

Eng. literates in 1000.		
Year.	Males.	Females.
1891	26	3
1901	108	12
1911	199	31

* Cochin Census Report (1901) p. 99.

† Cochin Census Report (1891) p. 93.

Jews, to the Christians and to the higher castes among the Hindus. It goes without saying that for centuries yet to come, English education must be confined to the wealthy and intellectual few in India—a microscopic minority—and that the masses in general can be influenced and leavened only through the medium of the Vernaculars. In order however that the Vernaculars might efficiently fulfil this purpose, it is necessary that they should be vivified by a living contact with English, enriched by an influx of new words and models and adapted, in various ways, to the requirements of modern times. In the words of the famous Education Despatch of 1854 “any acquaintance with improved European knowledge which is to be communicated to the great mass of the people can only be conveyed to them through one or other of the vernacular languages.”

Secondary education made progress in the State during the period. Many new schools—Sirkar and Aided—of the Lower as well as of the Upper Secondary Standard were opened. While the policy of Dewan Rajagopalachary was, as far as possible, to restrict direct departmental operations in the matter of secondary education and encourage private enterprise, that of Dewan Pattabhiram Rao appears to have been to maintain a model High School in every Taluk. Accordingly, many Sirkar schools of the L. S. standard were, during his administration gradually raised to the High School standard. It must however be remarked that in more respects than one, the so-called Model High Schools maintained by the Sirkar, left very much to be desired.

The Ernakulam College continued to make steady progress during the period under its suc-

cessive Principals—Messrs. Sealy, Cruickshank and Davies. With the appointment of Mr. F. S. Davies in 1903, as Principal, the College entered on a career of remarkable activity and progress and began to attract special attention in all quarters by the unique splendour of its results in the University Examinations year after year.

IV

Another redeeming feature of the period is the steady progress of female education in the State. While there were only about half-a-dozen girls' schools in 1891 there were 68 purely Girls' schools—Sirkar and Aided—in 1907. The total number of girls under instruction in the year was 13,531. The Victoria Jubilee Girls' School at Trichur which was of the Lower Secondary standard in the beginning was raised to the standard of a fully-developed High School during the period. The school could boast of a strength of 262 girls in 1907. The proportion of literates among females rose from 39 (in 1000) in 1891 to 45 in 1901 and to 61 in 1911.

A feature deserving of special mention is the existence of a large number of schools devoted to special education in the State. In 1907 there were as many as 275 special schools of which 2 were Sirkar institutions, 4 were Aided and the rest Unaided. A classified list of the special schools is given below:—

Special Schools : (1907).

Normal School, Trichur
Sanskrit Patasala, Tripunathara
Industrial Schools—5
Sanskrit Schools—104
Arabic Schools—99
Hebrew School—1
Music Schools—49
Bible Schools—18
Hindustani School—1
Gujaratee School—1

Another feature calling for special notice is the comparatively high percentage of the school-going population among the Christian subjects of the State. Their education, however, is confined, to a large extent, to the Primary and the Lower Secondary standards.

1901. Proportion of literates by religion (in 1000).

Age: period.	Jews.	Christians.	Hindus.	Mussalmans.
10—15	171·9	158·1	108·7	28·8
15—20	242·2	242	167·7	65·8

With reference to the variations in literacy by religion shown in the above statement* the following comment made by the author of the Census Report for 1901† cannot but be of interest:—“The Jews form but a small proportion of the total population of the State and their attainments are of the most rudimentary character.....The Christians forming about a fourth of the population of the State are much better off than the other religionists, as to every Church is attached a primary school which the children of the congregation are easily brought to attend and where they are taught reading, writing and certain scriptural lessons. The influence exercised by the native clergy in this respect is ably supplemented by the labours of Missionaries, both Protestant and Roman Catholic.....The Hindus form a little over 68% of the population and the comparatively low proportion of the literates among them is largely due to the high percentage of the

* Cochin Census Report 1901, pp. 103 & 104.

† Cochin Census Report 1901, p. 95.

low castes.....Lastly we have to deal with the Mahomedan section of the population forming nearly 7% of the total strength. The nature of their occupations in life and their general disinclination to take kindly to literary pursuits have always stood in the way of their progress.”

P. S. RAMAKRISHNA IYER.

(To be continued).

THE HEURISTIC METHOD OF TEACHING.

THE word *heuristic* is derived from the Greek word, *euriskein* to discover. Hence, Heuristic Method is in short, a method of discovery in which the school-master's essential duty is to place the pupils in an attitude of research, so that they may themselves *find out* instead of being merely told about, things.

I shall explain it by means of an illustration. Suppose a stone falls from heaven. It is picked up and placed in the hands of an investigator, a man employed in original research, say, a chemist with a request to find out its composition. The chemist is in possession of a vast amount of knowledge, has at his command the resources of the analytical and synthetical methods and has necessary equipment. With these aids he examines the object, sees and handles it and takes note of its visible and tangible and other properties; weighs it, and finds its density; adopts the dry test, the wet test and other tests and comes to the conclusion either that the piece of stone is composed of only known elements and nothing more, or, that it contains some known elements and some unknown substance. Having arrived at this conclusion, he begins to investigate this

unknown substance or *residue* as it is called with a view to discover its qualitative and quantitative composition. Perhaps in course of his research he is not able to discover its exact composition. He, nevertheless makes a clear distinction between what is known and what is unknown and with reference to this unknown he frames certain hypothesis whereby the future investigator may be on the path of discovery with a greater success.

Now, what the chemist is to the stone, the pupil is to the world around him. This is, as the pupil finds it, a complex of parts—of individuals and institutions—where law and order prevail. His main function is to discover its elements and their connections, to discover the laws and their operation, not only in the visible and tangible worlds, but also in the invisible or supersensual worlds.

Heuristic Method is the art of making children discover things for themselves. Hence a successful application of this method presupposes a knowledge of the science or sciences that are auxiliary to it and psychology is certainly one of them. Hence, a knowledge of psychology on the part of the schoolmaster is very necessary if he is to succeed in this method, nay, in any method. However, divers opinions are held on the subject. Some, like Prof. James, hold that "To know psychology is absolutely no guarantee that we shall be good teachers."* Whereas, others, of the school of Herbart, the disciple of Pestalozzi go to the other extreme and consider that Psychology is the supreme subject of study and that the schoolmaster should be a psychologist. Between these two extreme views there is a middle one which holds that a schoolmaster should know

* *The School World*, August 1914, p. 290.

as much psychology as will be required to guide him to know and apply the laws of individual consciousness in teaching a subject. This is the view adopted by the Madras University which includes psychology in the curriculum of studies for the Degree examination of Licentiate in Teaching.

Of course, there are born teachers to whom a knowledge of psychology is not very necessary, there are others again, to whom any amount of this knowledge does not seem to be helpful. However, it stands to reason to maintain that both class of teachers will make better teachers with a knowledge of psychology than without it. Hence, it is, that Prof. James contrary to the opinion quoted above, has clearly expressed his view on the subject in the following words in his *Talks to Teachers*: "We know in advance, if we are psychologists, that certain methods are wrong, so our psychology saves us from mistakes. It makes us, moreover, more clear as to what we are about. We gain confidence in respect to any method which we are using as soon as we believe that it has theory as well as practice at its back."* (1) "It is therefore obvious," says Mr. Benjamin Dumville, "that every teacher who aspires to make himself thoroughly efficient should obtain a good grasp of the fundamentals of psychology."† (2) For no method of instruction is truly logical which is not psychological, which does not pay heed to the constitution of the child's mind.

Further, when it is said, that the pupil should be encouraged to discover everything, it should be remembered, that, if he is left to himself un-aided, the consequence will be

* (1) *The School World*, August 1914, p. 294.

† (2) Do. do.

disastrous. If, for instance, one undertakes to discover any new foodstuff without taking into account the vast amount of human experience, probably the first experiment will prove fatal to the experimenter. Discovery means, discovery based on human experience and rational method. For this certain psychological and logical conditions should be satisfied.

Again, there are many things such as the names of things, &c., which cannot be discovered. These should be told to the pupils. In doing this, there is a right method as well as a wrong one.

With these preliminaries I proceed to a consideration of two aspects of the Heuristic method. This method endeavours to turn to best account two attributes of the human mind:

1. The mind is essentially active. In this activity is included also that of the body. The method seeks to give the fullest and freest occupation to the mind and muscle so that by their combined activity the gems of literature and secrets of nature can be discovered, retained, and reproduced.

2. The mind is inquisitive and is able to rise from the individual to the universal, from the known to the unknown. Hence it truly discovers new things and powers:

1. Activity: bodily and mental.

Spontaneous activity is a special feature of young minds. In children in the enjoyment of good health, during the period of rest, there is an accumulation of energy which when it reaches the maximum limit of storage will find some outlet for its discharge. And just like kittens at play they want to move their limbs, act, and do some-

thing of the kind. And therefore they want some objects on which their superabundant energy may be spent. Even when this energy is exhausted, there is the usual or normal quantity of energy which is directed towards purposive movements. These movements are carried on all through the life of the individual. Spontaneous activity which seeks to show itself in any kind of action, and the purposive movements which seek to realise ideal constructions of the mind must all be guided. If energy that wants an outlet is not properly directed it will spend itself in mischief which is a mere waste of energy. Hence, with the object of preventing this waste of energy and diverting it into proper channels of useful occupations, the Kindergarten system of education is framed. But this system may miss its mark unless it is conducted with the Heuristic and not the Didactic spirit. The occupations may be intended merely to amuse the child or to serve the purpose of a mere pastime where something better cannot be discovered or devised or, they may be done in mere imitation of what the teacher does and are not directed to awaken intelligence and lead the child to realise its own power of inventions. This power which is dormant in children must be drawn out and put to its useful application. Self effort should be encouraged and it should be fostered by arrangements designed to secure independent exercise.

The muscle, the motor element of the body grows with exercise; it gains precision and skill with use or practice. And the growth should follow the natural order. The child first learns to stand, then to walk and then to run or swim. This order cannot be reversed. Similarly the child learns to grasp,

to pull, or push and so on. Hence the exercises should be well graduated so as to give employment to the muscles in the most natural way. After the Kindergarten occupations may be taken up, clay modelling and kindred occupations such as mechanical contrivances, experimental enquiries and such like which will enable the pupil to take his place either in the workshop or in a laboratory. In all these, the teacher is to lead the pupil's energies into proper constructive channels and not drag him from stage to stage. For instance, if a pupil is required to make any experiment, say, the determination of the dimensions or densities of bodies, or dissection of a flower or seed, he should be encouraged to select, arrange, and use the necessary instruments and apparatuses in a way suitable to the end in view. The teacher is very often tempted to interfere. He should learn to put a check upon himself and direct the pupil to do the whole experiment himself. By a number of experiments performed in this manner, an interest is awakened in the subject of enquiry which will act as a momentum for making future experiments.

The mind, like the muscle, also grows by exercise. And the growth follows a natural order, first sensation, then perception, conception and so on. The mind therefore first observes and then infers or judges. This order cannot be reversed. And the exercise of the mind like that of the muscle is within certain limits both pleasurable and strengthening. And the object of the teacher is to educe latent faculties rather than driving knowledge into unwilling dulled ear. He should therefore supply such materials as will be conducive to this end in view. For

instance, in giving a first lesson on a period of History of England, or on any selection from Shakespeare or Milton it will not be inappropriate to begin the lesson with a suitable introduction. If the selection is from Shakespeare, a brief account of the theatre, the Globe Theatre, the life of the author, with rough black-board sketches or better, pictures connected with the particular play from which the selection is made will all be quite appropriate so that the pupils may realise the situation and take an abiding or life-long interest in literature and kindred studies. In short, the object to be secured by these means is to make the pupil's hand a "thinking hand" and his mind a thinking mind.

At this point, let me digress a little and point out the type of men which the Heuristic method is likely to produce.

There are two principal types of men in this world: those that think and those that act. And this method can prepare the two classes of men. However, the method is employed to its best advantage in physical and natural sciences where experimental researches predominate. Hence this method tends to develop the active element more than the passive element and thus helps to produce the type of men which may be characterised as men of action. Hence it serves to emphasise the fact that purely secluded life of a person spent in prayer and meditation, however good it may be to himself and others with whom he may come in contact, is after all self-seeking, his object being, primarily, the salvation of his own soul. To spread light and learning, to remove ignorance and vice, injustice and extortion, the world requires men of action. Education in the school being a preparation

for the diversified activities of society, it should be of such a nature that when they are to take their place in the world in any capacity, whether it be as leaders of men or followers, it will enable them to adopt active pursuits of life as their principal occupation rather than sedentary employments. The Heuristic method if rightly conducted will help to produce this type of men.

To consider the second aspect of the method.

2. The mind is able to proceed from the known to the unknown, that is, to make inductive discoveries.

There are certain things, as was already said, that cannot be discovered, for instance, the names of things. These should be told to the pupils. The process of connecting the names with the things is familiar to us all. Place the thing, say milk, before the child and draw his attention to it and tell him that the name of the thing is milk. The child has memory and learns to associate the name with the thing. The same method is to be adopted with reference to all names of things, of attributes, &c. In this manner the pupil's vocabulary is increased either in the mother-tongue or English.

But there is a host of other things which the pupil can discover for himself. It is to these the inductive method is to be applied. Now place the thing, milk, before the child, ask him to name its attributes. He can easily give the answer either in the vernacular or English. Milk is white, liquid, heavier than water, contains butter, &c. The name thus serves to bind together all the attributes of the thing. All the obvious properties of the most familiar things can thus be discovered by observation and experiment. The

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pupils are now in a position to give a description of any individual thing that was brought under its notice, *e.g.*, the tamarind tree is a large one yielding sour fruits. This is indeed a very brief description of the tree, but good enough in the earliest stage of learning. Of course, it can be amplified as the pupil's stock of the vocabulary and the knowledge of the attributes of the tree increase. So far we are occupied with individual things—animals, minerals, trees, plants and so forth.

As the mind develops it acquires the power of forming classes or groups of individuals that are linked together by a common attribute or attributes. Take for instance the class, nouns, in grammar. How can the idea of a noun be discovered? The process is easy enough. Children may be asked to give or point out the names of things occurring in the text-book or elsewhere, such as horse, Rama, the sun, &c. They may then be asked to state the property common to them all. They can say that the common property is that each is a name of a thing. When a sufficiently large number of individual instances having the same property is presented to the mind, it at once seizes the general nature and forms the class, nouns. In the same manner all other classes in grammar, in science, &c., can be formed. This characteristic of the mind to discover the property common to a group of bodies and to constitute it into a class is the basis of inductive discovery. It is by this that the mind can rise from the percept to the concept, from the individual to the general or universal. For the number of examples or individuals examined can never be exhaustive, that is, the number of instances that fall within a class—say, conductor of electricity—is innumerable. Hence, at no stage of its development it can

say, it has examined all the individuals forming the class. The mind at this stage takes the next step of applying the knowledge gained from the study of known instances to other or unknown instances. Hence this inductive method is also called the method of advancing from the known to the unknown.

Let the pupils heat certain bodies under certain conditions, they will observe, evaporation, expansion, sublimation, chemical union, decomposition and so on, according to the nature of the materials used. By strictly inductive enquiries the pupil can learn these properties. Similarly, a number of empirical trials directed to find out the aggregate value of the three angles of a triangle will lead to a conception of the geometrical principle, the sum of three angles of a triangle is equal to two right angles. Application of this method may be extended to all departments of experimental enquiries. By a systematic drill in this method of enquiries, the pupil's mind is trained to discover every new noun, verb, metal, conductor of electricity and several physical, chemical and natural phenomena.

The pupil is in a position to define terms. The *noun* is a name of a thing; *Refraction* is the bending of an oblique ray of light when it passes from one medium to another and so on.

The great principle underlying all these processes is the power the mind has to discover identity or likeness in the midst of difference. A boy can point out his father's face in a group photograph under whatever conditions it may be placed. Similarly, on any page of the book—whether it be the book of nature or the printed book—there is a great variety of words and things. He examines

them with a view to discover the particular property he is in search of. In this search, there is the analysis of the given by which, what is not wanted is rejected and what is wanted is selected. With reference to the group photograph stated above, the boy need not be told whether it contains the likeness of his father or not. He can himself discover it, provided he has seen his father's face.

It is said that Pestalozzi was filled with measureless remorse when he found that he had given a little boy a conception instead of inducing him to find it himself. Yes: this is the essential duty of the schoolmaster, making the pupil discover things himself. This discovery includes as is just seen definition, deduction and demonstration.

Probably by this time, it may have occurred to many that the particulars of the method given are quite familiar to them all. Exactly so. The Heuristic method is not at all a new one. It is only an old method with a new name used first by Professor Meiklejohn. For as Mr. Wren says in his "Indian Teacher's Guide," every teacher who teaches according to the usually recognised laws is to some extent a follower of the Heuristic method. The schoolmaster's duty in this connection is to grasp its essential nature and grow into it. He should transform his teaching into the Heuristic form, for, as Mr. Edmund Burke remarks "the method of teaching which approaches most nearly to the methods of investigation is incomparably the best."*

However, certain objections that are usually made against it may now be stated and answered.

* The Teaching of Scientific Method and other papers on Education, by H. E. Armstrong, p. 237.

1. More time would be required to teach a particular subject by this method than by the Didactic or other methods usually practised in schools.

This is true. Time spent at the commencement in the discovery of a particular property of a thing is really great. And consequently the progress made is slow. But in reality the power he has acquired during the initial stages of enquiry is in the long run productive of greater and lasting result than that acquired by other methods. This statement is borne out by the experiences of teachers who have been using this method. To quote but one instance, "Boys who have worked on this plan within a very small range have been able to grasp the bearing of experimental work in quite another department."*

2. This method is not suited to India under present conditions. This may be true to some extent. But instead of waiting for a time when ideally perfect conditions can be secured, it is very desirable in the interest of sound education that a beginning is made in this direction with the actual conditions of the school. However, I think, the actual conditions begin to improve in every direction. The Government give special and half grants towards better equipment of the school. The managing bodies and the public are willing to help the teacher in this direction as far as their resources will permit. Steps are being taken to see whether the teacher possesses adequate knowledge of the science and the art of teaching. Moreover, the efficiency of school instruction does not necessarily consist in costly apparatuses and lavish expenditure of money. Of course, accurately

* The Teaching of Mathematics in the Elementary and Secondary Schools, by J. W. A. Young, p. 78.

finished instruments and elaborate apparatuses are really very useful. However, nature brings about great results by simple means. Hence very often, simple and less costly substitutes will serve to keep the pupil profitably employed in the work of research or discovery quite as well as more costly ones will. And the teacher can make this work of the pupil both interesting and instructive, if he is a little painstaking in the careful preparation of his class lessons and is gifted with some perseverance and originality.

The following advantages are claimed for this method:—

1. A spirit of confidence is engendered in the minds of the discoverer. He is becoming more and more self-reliant. Instead of slavishly adhering to the dictates of mere authority, he becomes an original discoverer and thus finds sufficient ground to support authority that is really worthy of the name.

2. This gives the best training for the mind as it is both natural and scientific; natural in the sense of following the logical and psychological development which is natural to the mind, and scientific in the sense that there is an orderly exposition of the fact to be assimilated or discovered. He learns how to reason, both inductively and deductively.

3. It avoids all cram and yet the pupil can learn and retain more than by mere cram.

4. It can be adopted with more or less fullness in the teaching of all the subjects. In the words of Professor Meiklejohn "The heuristic method is the *only* method to be applied in the pure sciences, it is the best method in the teaching of the applied sciences; and it is a method in the study of those great works of art in language by the greatest

minds which go by the general name of literature." *

One word in conclusion. It is generally admitted, that according to the pronounced opinion of the Royal Commission on Education, it is not so much in the remodelling of curricula as in the improvement of *methods* that educational progress must consist. There have been and still are various methods in practice. It is known to the reader of this paper that there was a time when the *sūtrams* of *Nannul* the Tamil grammar in verse were required to be learnt by heart by the pupil first, and then their meanings were taught on the ground that the subject-matter would be better retained than by any other method. This method of blindly encouraging cram was followed by another in which the order of procedure was reversed, so that the meaning of *sūtrams* was first given and then they were learnt by heart. This method would tax the memory less and enable the teacher to traverse a larger area in a given time. However, this method that is generally practised in schools now is not materially different from the former. Both give employment to mere memory. Now is a time, when it is expected that enlightened methods are adopted in teaching the various subjects. Are enlightened and rational methods really adopted? The precept "Do as little as possible, make the pupils do as much as they can" is to be put into practice. The truth implied in this is that in the teaching of any subject, whether it be literary or scientific, by a judicious use of the catechetical method of Socrates or other teaching devices, the pupils can be made to discover a good deal of

* The Teaching of Scientific Method and other papers on Education, by H. E. Armstrong, p. 237.

what has hitherto been poured into their minds through the ear. It is left to the judgment of the individual teacher to say how far he has been following in his teaching the spirit contained in the precept. It is possible for teachers to violate the spirit and justify their indifference in class on the ground of this precept. I do not say that there are schoolmasters of this type. I only state that their existence is possible. And I am not unaware of the difficulties the schoolmaster has to contend against. His work is in very many cases an uphill work, and the difficulties are apparently insuperable. He should not despair. The profession of a schoolmaster is a noble one deserving honourable treatment. He is not working for the sake of a few rupees merely. He has the responsibility and privilege of training young minds during the most impressionable period of their life to noble purposes. He can either make or mar them. Let everything, which the schoolmaster does, be done with this sense of responsibility. Is the energy directed so as to achieve the best training of the mind entrusted to us? The facts should be faced. Whether from lack of apprehension of the correct method, or from the inherent or acquired lethargy of certain minds or from the crowding together of curriculum of studies or from pressure of examinations, the educational methods as we find in schools here have not made much progress. They are really capable of much improvement. An honest endeavour on the part of the teacher to grasp the spirit and principle of the heuristic method, and a constant and consistent use of that method as far as the conditions of the school would permit, would certainly tend to produce a real improvement in the quality of education imparted in our schools. Above

all, let us endeavour to make our pupils discover and practise the highest moral ideals so that we may be able to "manufacture souls of good quality."

Y. STEPHEN.

THE TEACHING PROFESSION.*

WE are living in times of great educational activity, change and experiment. The spread of education, by which each and every individual is given the opportunity of getting on in the world and making himself useful to his fellowmen, is being recognised as one of the primary duties of every civilized State. Education has been proved to be a panacea for curing many of the ills the human flesh is heir to. Hence, more and more money and energy are being devoted in every country to widening the influence of this bringer of light. Old and antiquated methods of teaching are giving place to new rational ones based on sound principles of psychology. In our own Presidency new ideals and standards of education are on their trial. The much-maligned Matriculation is dead, and on its ashes has been reared the infant School-Final Examination. Since the University Act of 1905 came into operation, the whole course of University education has been so overhauled that the system which had been current for half a century has been mutilated beyond recognition. The fad of specialisation is dominating and permeating them all from top to bottom. How far the changes will prove fruitful of good and how far the new will prove decidedly an improve-

* A lecture delivered at the Anniversary Meeting of the Teachers' Association, Government High School, Parur, by Mr. P. K. Anantanarayana Iyer, M. A., L.T.

ment upon the old are yet to be decided by the discerning minds of the future. But it is our honest duty to give them a fair trial and our whole-hearted support if the good elements in them are to be brought to light.

The achievement of this success is impossible unless we have faith in ourselves and are conscious of our own dignity and strength. Ours is a noble profession; rather, many say that it is the noblest of all professions. We in India can appreciate more than others the profound truth of that statement. In our country, from time immemorial learning has been personified and adored as a goddess, and the possessors and professors of learning have been held in the highest honour and esteem. The relations that subsisted between the Guru and his disciples of old have been of an inspiring and ennobling kind—an ideal worthy of imitation. Though the present times are so radically different as to make the revival of that ancient institution a vision and a dream, it would be a happy thing if at least the spirit of that worthy ideal were infused into our modern system of education. As evidence of the possibility of its realisation even at the present day, we have only to look at the working of the Gurukula institutions in the Punjab and the Santiniketan at Bolpur founded by the great Bengali poet Rabindranath Tagore.

If it is such a noble profession, its responsibilities are equally great. It is a truism that the making of the citizens of the next generation is in our hands. In proportion to our ability in drawing out the best faculties that are in them and enabling them to rise to the height of their manhood, shall we be deemed to have fulfilled the responsibilities incumbent on us. Especially since the intro-

duction of the S. S. L. C. scheme the duties as well as the powers of the teacher have increased. The merits and capacities of our students are judged now not by the results of a single public examination as of yore but from the sum-total of the sustained work they have done during three years. In thus observing and estimating correctly the progress of our pupils for a sufficiently long period consist the new responsibilities laid on us. The success of the new scheme, therefore, depends to a large extent on the conscientious discharge of the duties on our part and the due weight and importance attached to the school marks on the part of the authorities. No less important is our duty in moulding the character of the youngsters entrusted to our charge.

High though our responsibilities and heavy the work demanding the display of faculties and capacities in no way inferior to those of men of other professions, it cannot be denied that the teaching profession suffers from lack of adequate encouragement. The emoluments of the teacher compare unfavourably with those of other learned professions. I know the charge is sometimes levelled at us that only men of mediocre abilities take up the vocation of the teacher, the most gifted among the nation being attracted to other walks of life. When men of the intellectual calibre of a J. C. Bose, P. C. Ray, Jadunath Sircar and C. V. Raman who have won laurels in the fields of Science and History by their original researches of a high order; or men of the distinguished merit of a Gokhale, Paranjpe, Sundaram Iyer and Sreenivasa Sastri, who have established their reputation as great educationists of the country, are, or were until a few years ago, found in the ranks of Indian professors and teachers, that

charge of inferior capacity falls bottomless to the ground. We are rather led to wonder that so many eminent men are to be found among teachers in spite of the many discouraging disabilities under which we have to labour. I admit that our calling should not be regarded from a merely mercenary point of view. But to those cynics who insinuate that the consciousness of being members of an honourable profession is the highest kind of remuneration we should desire, we reply that the food they offer is too subtle and ethereal to satisfy the cravings of hunger or the demands of the flesh. At the same time we admit with gratitude that the pay and prospects of the teacher have been bettered during the last half a dozen years, especially with the aid of the larger grants sanctioned both by the Madras Government and the Durbars of the Native States, and hope that the long-promised Provident Fund would be an accomplished fact in a short time.

Nor is the social status of the teacher what it ought to be. Rightly or wrongly, respect in Indian society is more largely swayed by considerations of income than by the honour and usefulness of a man's work. Yet that is not all. There are other mysterious forces at work. The popular estimate of a teacher's value is rather undeservingly low. To cite one true incident. An M. A. of our University, a Professor in a College drawing a salary of Rs. 200, having gone to attend a public meeting on invitation, had to shift for himself in finding a seat, while a clerk in the neighbouring Court on Rs. 15 per month was warmly welcomed and conducted to a chair. No comment is needed to indicate the attitude of the public mind. To what causes is

this unsatisfactory state of things to be attributed?

In one respect the blame rests on ourselves. I fear that the teachers as a body behave towards others in a more humble and self-effacing manner than is consistent with their status. I do not deny that humility is a virtue. But we should be more self-assertive, more dignified in our behaviour, more independent in our opinions and actions, and more jealous of maintaining our self-respect if we are to command the respect and esteem of the community. In these days of stress and strain, some amount of pushfulness and self-assertion is quite essential for success in life.

Another cause is that a large part of a teacher's time is spent in dealing with immature minds in the class-room by which he is deprived of the chances of gaining sufficient experience of men and a knowledge of the practical affairs of life in its several concerns. There is a remark that a teacher in any other society is like a fish out of water. I do not know what amount of truth there is in it. The only remedy to make up for this deficiency is the cultivation on our part of a love of reading and the consequent enrichment of our store of knowledge. In other words, our high ambition in life should be the acquisition of culture. We have more leisure and better opportunities for this mental equipment than others. Thus endowed the teacher will be a more welcome element in the society of his compeers. Further, there is unquestionably greater need for the teacher to be equipped as broadly as possible with knowledge and capacity in every branch of knowledge. Wide reading alone, and especially of standard authors in literature, can contribute to the storing up in our minds of a fund of incident,

quotation, anecdote, joke, &c., which only can give life to the lesson. Alertness and resourcefulness of mind can be acquired only as the fruits of culture. How many of us do strive seriously and with perseverance for the fulfilment of this high aspiration? Is it not an unpalatable truth that the reading of many of us is grievously confined to skipping over some newspapers and magazines or in some cases to while away a few tedious hours in poring through some flimsy modern novel? Let us search our hearts a little. It is often painful to think how culpably we are neglecting the golden opportunities that are at our doors for acquiring mental enlightenment and culture.

The teacher should be liberal and rational in his views concerning society. His constant association with the growing minds on the one hand and the master minds of the past on the other favours the cultivation of such radical ideas. A conservative teacher is a source of perpetual misery to himself and his pupils. It is his sacred duty to imprint on the tender minds noble and liberal views which, in addition to being a source of joy and accomplishment to themselves, enable them to influence and mould the unhealthy elements existing in the social environment. The teacher should correctly read the signs of the times and perceive with an unerring eye the goal to which society moves. The ideals of social progress are what he determines and inculcates. As education is expected to form 'the common mind', who but the teacher could help best in sowing broadcast ideas of common brotherhood? Pitiable indeed is the condition of the teacher who blindly bows to existing customs and views with suspicion all movements calculated to foster the realisation of this high social ideal.

Again, another drawback is the lack of organisation, the absence of a sense of solidarity, among members of our profession. The last half a century has unmistakably demonstrated to us the value and effectiveness of co-operation and organised work. We want Teachers' Associations in their hundreds in different parts of the Presidency doing active, regular and substantial work if our profession is to be a living force capable of making its voice heard and respected in the councils of our rulers. To discuss large educational problems that come up for consideration now and then, to shape the educational policy of the Government by timely representations, to safeguard our interests and agitate for the removal of our common wants and grievances, to discuss and adopt modern and up-to-date methods of teaching the several subjects, to cultivate among the teachers an *esprit de corps*, for these and similar purposes every town and village should have its own Teachers' Union, all working under a central organisation like the arteries of our body. In short, we should endeavour to create among ourselves a sort of 'professional consciousness.' Any one who knows something about the National Union of Teachers in England and similar societies in America, will wonder at the stupendous work they are doing to improve the status and prospects of the teaching profession. It is a matter of momentous importance to us to decide how soon we shall organize our forces and place them on a sound and firm basis.

Another crying want is the necessity to entrust the teacher with a large measure of internal freedom and the power of initiative. The School Final Examination has become the passport either to a University career or to the public service in Southern India. If

the new system is to fulfil the high expectations of its promoters, the secondary school teachers should be vested with greater privileges and power. As they come into daily, nay hourly, contact with the students, their closer knowledge and experience should be utilised by those who control and legislate for this new system. They should be given a voice in the framing of the syllabus of studies and the prescribing of text-books and they should form an important element in the examining bodies. The public examination should be shorn of the all too great importance now assigned to it and more value should be attached to the school marks if the continuous and steady progress of the students is to be maintained at school.

The first requisite of distinction in any profession is a love for it, a determination to make it one's life-work, and a whole-hearted devotion to it. It is often heard that many persons use the teaching profession merely as a stepping stone to other more ambitious walks of life. Such birds of passage can neither attain success in it nor contribute to the credit and good name of the profession. The Travancore Government have done wisely in disallowing law-students to become teachers in the State. Every professional man requires a certain special training to equip himself for the efficient discharge of his duties. Unless he has this previous preparation and unless he devotes himself with enthusiasm to his work, he cannot hope for that professional success, which is our goal.

It is now universally recognised that the true object of education is the harmonious development of mind and body. More attention has to be paid to the improvement of the physique of our students by devoting more

time, attention and money to the organisation of school games. Then, many of us feel contented with having done our duty when we have prepared our boys for facing their examinations successfully. It is an unavoidable fact that examinations play a disproportionately large part in our educational system. I do not gainsay or belittle the fact that the quality and quantity of a teacher's work are largely measured, in the opinion of the public, by the success of his pupils at the examinations. I only maintain that to confine ourselves to that coaching and not teaching will be sadly narrowing the legitimate sphere of our activity. Our ideal should be pitched higher. We should aim at furnishing them with a liberal knowledge supplementary to their regular lessons, and instil into their hearts a noble sense of duty and regard for honour that will stand them in good stead when they have to fight the battle of life for themselves. In short, to enable them to become worthy citizens of the mother-country should be our educational ideal.

Again, education has to fulfil a double function. The culture of the heart should receive as much attention from us as the culture of the head. The Government of India in their Resolution on Education issued at the beginning of last year expressed it as their mature opinion, formed after an experience of more than half a century of English education in this country, that the formation of character should be the primary, and the intellectual development only the secondary, object of education. The exclusive and undue importance attached to the intellect has been a great drawback of our education. It has made a large number of our young men very poor specimens of humanity, unworthy of a

liberal education. But how is this all-important character formation to be effected? The secondary school is a proper field for devoting sufficient time and attention to this matter. Because there we deal with young and plastic minds, which are yet in the formative period of youth and open to the influences of the adolescent stage. Some are of opinion that the imparting of religious instruction in our schools will remove the stigma of a godless education. But it is a still debated question, an unsolved problem. Neither the utility nor the practicability of religious instruction has been established beyond doubt. Again, others advocate systematic instruction in morals and moral conduct as a useful adjunct in building character. I have not much faith in the efficacy of a number of set copy-book maxims and rules of conduct. If our youngsters are lacking in that high seriousness of character it is not for want of moral precepts but in spite of them. I believe that opportunities for the inculcation of moral principles should be sought in the course, and arising from the principles, of discipline of the school. The teaching of the usual lessons, especially in English and History, should aim not only at the intellectual, but also the moral, culture of the students. The teacher should make a conscious and deliberate attempt in that direction and not merely leave it to follow as a matter of course. By commending noble and heroic characters in history or fiction as ideals worthy of imitation, by presenting evil or base characters as deserving their contempt, ridicule or indignation, by the timely reproof of vice and praise of virtue, by healthy digressions and side-excursions, while the youthful minds are in an active and receptive mood in following the lesson, much good

might be reasonably expected to ensue. Again, by appealing to the students' own sense of right and wrong, honour and shame, whenever they are found guilty of a moral breach of conduct, by trying to make them feel and convince them of their mistake before inflicting punishment or granting pardon, by allowing them a reasonable degree of freedom as is consistent with the buoyancy of youth, by entrusting them with duties of trust and responsibility on occasions, by such and similar measures we can lay the foundations of good character in the students. In this respect, more than in others, the personal example of the teacher is most potent for good. A teacher, whose moral character is above reproach, and who is imbued with a lofty ideal of duty in all his actions, has a personal magnetism which is irresistible. The solemn advice of a teacher, whose actions are at variance with his words and who has not the moral courage to practise his precepts, is received more with a chuckled sneer than in a serious light. Only the presence of strict continence in habits and tolerant liberality in tastes and opinions in a teacher can instil refined manners and gentlemanly behaviour in our young men.

Far more than at any other time in the history of education, it is coming to be recognised that a knowledge of the elementary principles of psychology, especially of the mind of the child, is of vital importance for one to be an efficient teacher. All the famous educational reformers from Rousseau down to Madame Montessori of our own days have made, in a greater and greater degree, the study of the child-mind the basis on which they have reared the structure of their educational methods. To supply instruction without causing undue strain on the mind of

the child, to make children feel learning as a pleasure and not a hardship, to turn the several minor incidents of the class-room as instruments in the character-building of the young, to make them assimilate knowledge and not to cultivate their memory,—these are some of the ideals which, for their successful practical application, require a knowledge of psychological principles. The judicious training of the emotions and will, in addition to the cultivation of the intellect, demands a close study of their inner workings on the part of the teacher. Living sympathy with child-nature is the only 'open sesame' that will unlock the latent faculties of the tender mind.

Another danger which has to be guarded against is the natural tendency, among all professional men, to get into old, narrow and narrowing grooves after the lapse of some years. This fatal tendency is more baneful in its results in the teaching profession, as it injuriously affects the growth of many young hopefuls committed to our charge. 'I have been successfully following this method for the last many years'—is a statement not unfrequently heard from teachers; and nothing is more pathetically pitiable than to see an elderly teacher following antiquated and mechanical methods and rules of teaching while his younger colleagues are one or two decades in advance of him. An efficient teacher should always be a learner, he should be willing to abandon his cherished methods when better ones are available, and his mind should always be open to the reception of new ideas. No teacher shall be true to himself or his profession unless he keeps himself in touch with modern and improved methods of teaching that are coming to light every year, since the Science of Education is a pro-

gressive one adding to the stock of our knowledge every day.

I should like also to refer to the necessity of devoting some attention to the cultivation of the æsthetic side of our pupils. The formation of healthy tastes for literary or scientific pursuits is of immense importance. To create a taste for reading, to be able to appreciate a beautiful poem, or a fine passage of prose or a song, will be sowing the seeds of infinite joy and unalloyed happiness in after-life.

Another desirable aim should be to impress the peculiar life or 'the soul' of a school in the refined manners of its pupils. Our schools, as at present constituted, do not afford ample opportunities for the cultivation of the social virtues or the development of corporate life. 'Moral thoughtfulness' has been said by Arnold to be the ideal characteristic of the Rugby school-boy. Thus the tone of a school should be reflected in the character of the young men who leave its portals to enter the business of life.

Hard and strenuous work, a determination to put forth the best that is in us, 'to live laborious days' as Milton puts it—should be our ideal. Plain living and high thinking should be our watchword. If we are animated by a lofty professional ideal, imbued with a noble sense of duty and inspired by a faith in ourselves and our work, then we shall amply justify the trust reposed in us, of being custodians of the nurture of the rising generation.

OUR PRESENT SYSTEM OF EXAMINATIONS.*

GENTLEMEN:

I do not know how to thank you for the privilege you have allowed me by thus enabling me to speak before you on an occasion like this, though I am afraid you have after all made a poor selection for one of your speakers to-day. To one like myself, an opportunity like this should be a source of immense pride and gratification, and I do feel it to be so now, and if I have not till now taken any active part in any of your meetings, you must give me the credit for it, because I am always conscious of my inability to do full justice to the part which I may be tempted to take; I feel none the less so on the present occasion. But my ambition is to deserve your choice.

Gentlemen, I propose to speak, to you to-day, as you know, on the subject of our present-day system of examinations—a subject on which much has been said already but only a little has been done. I am led to feel at each and every step that the treatment of the subject may rather suffer at my hands, for neither can I bring to bear upon it any vast experience, nor can I claim any close study of the problems connected with it.

HISTORY OF EXAMINATIONS IN GENERAL.

We shall now begin with a study of the history of examinations in general to the origin of which, we have to look back to the educational systems of the ancient Greeks or later on of the Middle Ages

just as

"Large rivers from little mountains flow;

Large oaks from little acorns grow,"

the present elaborate and colossal system of examinations, has grown out of small beginnings, when they were originally taking the form of exercises in which the students were called upon

*A paper read at the Tanjore District Teachers' Association Meeting held at Kumbakonam by Mr. S. G. Subramania Aiyar (at Shiyali).

to show, by actual demonstration, that they could do certain things. This was a necessary condition for regulating the admission of candidates from one grade to another; and in the old days of the Universities, this 'demonstration' stage gave place to a practice of admitting one to a higher grade by testing one's skill in maintaining a thesis in a public disputation. Then came the third stage in the history of the growth of examinations, which was and has been to this day, the stage of 'written ones' in the place of the 'Thesis or the Debate stage.' Even then, the character of examinations, as an instrument of guiding the Colleges, in allocating fellowships and privileges, was clearly discerned, and thus the element of competition was introduced. It is not possible to definitely say at this distance of time whether those examining bodies were teaching bodies also and whether such examinations were as frequent and as prominent as they have been of late, though every precaution was taken to secure the impartiality of Examiners.

It was only then that the University of Cambridge established a highly perfected system of numerical marking which continues, to be, to the present day, the very essence of our system and which, as we shall have occasion to observe, has been established as the only safe and reliable test by which the candidate's work at school is to be gauged and, in not a few cases, his future determined.

A close study of the German and French systems of education will reveal to us interesting facts of how the system of examination, simple as it was at the beginning, was developed in the two countries on entirely different lines and how, what is a boon in the one country, Germany, is a curse in the other, France. Germany, the United States, recently Japan and England have worked it out on the right and rational lines, as may be seen from what will follow in the course of this paper.

The points, enunciated above, will naturally lead us to the consideration of our present subject from another equally important standpoint, namely,

THE THEORY OF EXAMINATIONS

which will comprise a few noteworthy subdivisions as, their practical, educative and ethical value and their use and abuse. Here, again, I am afraid my observations will have only an indirect bearing on our present subject and may prove only of academic interest, though I cannot help saying a word in connection with each of the above subdivisions.

While the practical value of examinations, as we have seen, consists in their being useful as a means of regulating the progress of candidates, their educational value is none the less clear, and it chiefly lies in their forming a valuable part of the School and College curriculum. Here we have to distinguish between 'internal examinations' and 'external ones,' examinations conducted by the teachers themselves and those conducted by a body outside and independent of the school, respectively. In a system of 'internal examinations,' there is a wholesome tendency noticed where education dominates examinations, whereas the converse alone holds good in the other system where the baneful tendency is for examinations to dominate education.

We shall see, presently, when we make a comparative study of the systems of different countries how the system of internal examination by itself, is not an unmixed good and how the other is not an unmixed evil.

As regards the ethical value of examinations, I can't do better than quote a passage from that interesting book by Fitch, which is the Gospel of every teacher, where he says "that the whole problem of examinations and the right way of conducting them and preparing for them touches very nearly the morality of the School life. Look well to the influence which the examinations you use

are having on the ideal of work and duty which your scholar is forming. Ask yourself often if that which will enable him to do best in examinations is also that which is best for him to learn. Watch how the prospect of the examination tells upon his methods of study, his sense of honour and his love of truth. Determine that, whatever happens, you will not pay too heavy a price for success in examinations. It is because sufficient regard is not paid to these considerations, that many thoughtful persons are fain to denounce examinations altogether, as the bane of all true learning and as utterly antagonistic to the highest aims of a teacher. In their proper place, examinations have done good service to education and are capable of doing yet more. But they can do this only on one condition. Let us make sure that for us and for our pupils, success in examinations shall not be regarded as an end, but as a means towards the higher end of real culture, self-knowledge and thoughtfulness."

The above utterances of Sir Joshua Fitch, the pioneer of the modern and rational methods of teaching, are worth their weight in gold. They furnish us with an ideal standard, by which to test any system of examinations. Above all, they set forth in bold relief, all the objects which examinations serve, how they form no negligible factor in an ideal system of education and how they become a wholesome or a baneful weapon in the hands of those who use them well or ill. Well has it been said that they are like 'a good servant but a bad master'—useful but dangerous, or to put it in figurative language 'like opium and strychnine, belladonna and arsenic, they are deadly poisons or beneficent drugs, according as they are abused or used.

Having thus set forth in a way the practical, the educational and the ethical value of examinations, we shall not pause here to discuss their use and abuse, as that can be appropriately brought under the third important head,

namely, the place assigned to examinations in our country and especially our Presidency. We have now come to examine a very important aspect of our subject, an aspect with which we are deeply concerned and on which many interesting problems have an intimate bearing. Nothing like a comparative study of the educational systems of certain typical countries as Japan, to help us to form a correct estimate of our present situation in this respect. In a previous context, we examined two distinct systems of examinations, the internal and the external, and we had also occasion to point out that, in the internal system, education dominates examination, whereas in the other, the reverse is the case. Now the internal system, piously followed in Germany, has produced excellent educational results, as may be seen from the Occasional Reports on Education, issued by the Government of India. It is really a matter for surprise to learn from these reports that examination systems, the great glory of English and French education, are quite unknown in Germany. The promotion from class to class is regulated by the decision of the masters and only in *Ober Prima* (Upper Primary) is there a formal examination at the end of the year. But even this, the report goes on to say, does not in the least accord with English ideas of an examination. It is conducted by the *Schularat* or Chief Educational Officer of the District in consultation with the teachers. It is partly oral and partly written, but in no case are there any printed papers. Questions, for the purpose of written examinations, are chosen out of a list submitted to him by the Headmaster. If the examiner is well-satisfied with a boy's written work, and with his master's account of him, he may excuse him the oral examination. But even taking both into consideration, the candidate's fate does not altogether depend on his performances, for his record during the past year must also be weighed. There are no horrors of a Selection Examination,

From all these, it is clear that German schoolmasters to a great extent control the destinies of their pupils; and as far as their methods go, they are not fettered by examinations. Government does indeed prescribe a standard for each class; and when the school is inspected perhaps once in two years, care is taken to see that the classes are up to their proper standards. Well, Gentlemen, here is a picture of a typical and almost an ideal system of examinations, which is worthy of imitation—a system, in which the abuses of it are reduced to a minimum and one which rightly gives a conspicuous place to the teacher, which he justly deserves by virtue of his intimate acquaintance with the students committed to his care. The originators of the School Final Scheme, in our own country, seem to have been influenced by similar principles and to-day we are pleased to see in the introduction and working of the S. S. L. C. Scheme in our Presidency, striking parallels to the German methods of instruction and examination, though the comparison between the two cannot be carried very far.

Now let us turn to another side of the picture and examine the conditions in France, where the external system of examinations prevails, with the result that teachers bitterly complain that they are not the educating body and that the State constructs the machine of education and only gives them a handle to turn.

Turning again to Japan, and the United States of America, two countries where the internal system is rigorously followed, we find that, in spite of many features common to both India and Japan, the Educational systems pursued in both the countries are entirely different, one special feature in the Japanese system being the absence of colossal public examinations which justly leaves an able teacher, a delightful freedom both in the subjects and in the method of instruction and examination. Coming to our own country, we cannot

fail observing at the outset, among other considerations, that there has been of late a change in the right direction and there has been considerable improvement at present in our system of examinations. I may characterise the present system as a happy compromise between the absolutely internal system of Germany and the entirely external system of France, though in the days of the pre-School Final Scheme, the state of things was rather a little undesirable. Originally a certain amount of State organisation, aid or control was necessary to test the teacher, to raise the standard and to improve inefficient schools. But, at the same time, I very much doubt, if such examinations are any longer necessary now, at this stage, especially when the professional status of a teacher, wise inspection by the authorities and an elastic State organisation have been established beyond doubt and become the characteristic features of our educational system. Failing, thus, to see any necessity for public examinations in this respect, we cannot altogether ignore the other purposes, which they have been long supposed to serve, in the first place as a test of the pupils' fitness to pass on to something else, as a stimulus to him and as a means of awarding posts in the service of the State or of distributing public money in scholarships and exhibitions. Even here, it may be observed that the stimulus given to the pupil proves at times more mischievous than wholesome, as a pupil cultivates a bad tendency in him to work only for examinations, to care nothing for knowledge, but only for success, and to form an absolutely wrong idea of education. But at the same time, actual experience, of some of the past and present conditions, indicates that external examinations place some restraint on the teacher and enforce on him a rigidity of the curriculum. The teacher cannot try new methods, new plans, for the stratification and correlation of subjects. Very often we see that a wrong type of pupil has been brought forward—the brain that can assimilate and reproduce, not originate

and think. This is no doubt an unwholesome feature of public examinations and we can only expect that a teacher, who is still a student, who is still thinking and learning is far more likely to make his pupils think and learn than is the poor pedagogue whose horizon is limited by the 'Cram book and the Question paper.' Centralisation is good, decentralisation is much better; but too much of any of these is altogether bad.

In the face of the above considerations, Gentlemen, you will agree with me in thinking that a few years back, the state of things in our Presidency, should have been very unsatisfactory indeed, especially that being an age of endless public and private examinations, beginning with the Primary and ending nowhere, which, among other things, tend to cause a serious dislocation of school organisation. It will be rather unsafe, unless on strong and accurate evidence, to go into the details of a state of things when examinations were the order of the day—a circumstance which would have maddened a Rousseau, startled a Mill and surprised a Herbart. It will be interesting in this connection to examine what the Government of India itself thought once, on its Educational policy followed in this country a few years back and what it thought on our present question in particular. After sketching the history of its policy on education in this country since 1854 and the various changes it underwent as a result of the later Despatches, it goes on to point out in its Resolution on Education, how the system of education, as it obtained then was defective in that, that higher education was pursued with too exclusive a view to entering Government service, that its scope was unduly narrowed and that those who failed to obtain employment were ill-fitted for other pursuits and that excessive prominence was given to examinations. There were other defects also suggested with which we are not concerned at present, but which are being remedied since then in the light of a few years' experience.

But, mark Gentlemen, how strongly the Government of India felt on that occasion on the system

of examination, then widely prevalent, and the abuses that had been slowly working their way into the system. In the words of the Government itself, 'Examinations, as now understood, are believed to have been unknown as an instrument of General Education in Ancient India, nor do they figure prominently in the Despatch of 1854, and in recent years, they have grown to extravagant dimensions and their influence has been allowed to dominate the whole system of education in India, with the result that instruction is confined within the rigid framework of prescribed courses, that all forms of training which do not admit of being tested by written examinations are liable to be neglected and that both teachers and pupils are tempted to concentrate their energies not so much upon genuine study as upon the questions likely to be set by the Examiners. Their demoralising tendencies have been encouraged by the practice of assessing grants to aided schools, on the results of examinations.'

Side by side with these defects, there was yet another grave disadvantage under which schools in general and examinees in particular were suffering owing to a rigidity in the matter of appointment of Examiners to the various subjects. It was this one strange feature which widened the gulf between Universities and Schools and Colleges and there is an apt reference to this state of things in one of the notes written to the Calcutta University by the Hon. Justice Saradha Charan Mitra, wherein he advocates, among other remedies, a system of recruitment of examiners from teachers and headmasters themselves, who, according to him, are best qualified for the work by virtue of their intimate connection with the examinees.

Gentlemen, I must guard you here against thinking that Mr. Mitra was ever of opinion, that headmasters and teachers alone should monopolise examinations. It was not his spirit and he reserves the first place to men, who have capacity for the work, who command a knowledge of the subject-matter and are

scrupulously careful and thoroughly honest in setting questions and in valuing papers, be they Professors of Colleges or Headmasters of Schools. It will be interesting to note, in this connection, that similar suggestions were made to the Madras Senate, perhaps in a more forcible manner by some of our distinguished men, as Dr. Miller, Messrs. J. H. Stone and J. Cook of Bangalore, when a scheme for the appointment of a separate Matriculation Board for Madras was brought before the Senate. Here are the words of one of the greatest educationists of our country, who served the cause of education for about half a century and who has brought to bear upon his remarks, his vast experience, thought, cogency and vehemence. He observes as follows: "Some of our University iconoclasts have been proclaiming recently that the Matriculation test is *too low*. But I speak from personal knowledge when I assert that not the standard but the conduct of the examination is unsatisfactory, that it ought to be under the control of one Joint Board of Moderators, who should be all teachers of wide experience, insuring a reasonable standard for the examination. The closer participation of men with experience of school work will make the examinations more of a real test and the Association of High School Teachers with the Professors will react beneficially on the school-work. Though it is a matter for pity that such weighty representations and suggestions were not received in the spirit in which they were offered and had no proper response, we are extremely gratified to find to-day that those suggestions have been translated into action and have been carried out to the very letter, in the recent introduction of the S. S. L. C. Scheme. Every now and then, we find, in papers, means suggested to the University by responsible members of the Senate, towards the removal of defects, which have become more or less chronic with our University.

Without entering into any of the details of the internal administration of the University, which it is not our legitimate purpose to touch upon in a paper like this, we may directly

proceed to deal with the present S. S. L. C. Examination, which has practically taken the place of the Matriculation and in which the interests of the majority of our student population lie. It is not to be supposed here that the S. S. L. C. Scheme is the direct outcome of a state of things which immediately preceded it and in which poor students had to suffer a good deal from the disastrous results of the Matriculation Examination published every year.

The Education Commission of 1882 seems to have recommended the bifurcation of the Upper Secondary Course one side leading up to the University or the classical side and the other leading up to the School Final and corresponding to the modern side of English Schools with the object of giving a different kind of training for a student who desires to enter service from that required for the student who desires to enter upon higher study.

Though the scheme itself conforms to the principle of minimum State interference in satisfying the educational needs of a country, and though teachers are given a good amount of latitude, it is seriously doubted in certain quarters whether the scheme fully satisfies the ends kept in view by the Government. I, for one, strongly approve of the principle on which the scheme rests, though it is not possible to reach perfection in a single day. We very often hear complaints from people who are disposed to speak of the S. S. L. C. Scheme as an anomaly in certain respects; and though I can understand them in a way, I am led to feel that they are only taking a pessimistic view of things. They seem to think that the advantages given to the S. S. L. C. holder over the Matriculation student consisting in the special facilities afforded to the latter and leaving him some option in the matter of selecting subjects from the (c) optional group, tend to make the students select such subjects as are common with the Matriculation student and thus ensure his entrance into the College and consequently tend to make the S. S. L. C. Examination also a substitute for the Matriculation. Granting that

the S. S. L. C. Examination is intended only for students who want to qualify themselves for entering life, they seem also to think that the S. S. L. C. Scheme will not serve the purpose kept in view, because the scheme, as it works at present, serves only as an alternative for the Matriculation Examination and under such circumstances, it overlaps the Matriculation, thus obviating any necessity for the latter and the usefulness of the former is thus compromised to the extent to which it takes the place of the Matriculation in our schools.

Gentlemen, Radicalism can't go further; and you will kindly excuse me if I say that my sympathies are not with those who want to make impracticable suggestions with a view to thoroughly overhaul the present system; and I am not going to tax your patience here in dilating upon a subject on which a hot controversy has been going on in one of our sister Presidencies.

Gentlemen, we have met here to-day in a very opportune moment and under good auspices and we are to closely watch the proceedings of the Senate meeting coming off at the close of this week when several interesting propositions are to be discussed and it is our privilege to ventilate our views on some of the important subjects put down in the Agenda paper.

I shall now turn your attention to one of such propositions, wherein one of the members of the Senate is to move the University 'to provide that no holder of a completed Secondary School-Leaving Certificate shall be admitted to a University Course of Study or shall be registered as a Matriculate unless he has obtained a minimum percentage of marks in certain subjects, the percentage and subjects being from time to time specified by the Syndicate and that it be a recommendation to the Syndicate that the above minimum should be fixed on the basis of the public examination marks as well as the school marks, the latter being moderated in all cases with reference to the school average in the public examination.' Of course, the proposition will, if carried out, be a source of immense relief to the

S. S. L. C. student who is placed in utter confusion at the end of his school course, and who, with his certificate in his hand, goes about knocking at the doors of each and every one of the Colleges in the Presidency.

Thus it will give us the immediate advantage of deciding for the S. S. L. C. holders, the real worth of their certificates, though, at the same time, it is more or less, an external agency that decides it for them. The fixing of a minimum percentage by the University will be making the conditions of entrance into the College as rigid as in the Matriculation and, at the same time, the consideration given to school marks, it may be contended, may be an advantage to the S. S. L. C. holder over the Matriculation student and sometimes *vice-versa*.

Anyhow, the proposition is an important one and admits of various issues, which we shall watch with interest and which we hope, will be settled without any prejudice to the spirit with which the new scheme has been introduced.

Turning to the subject of the examination itself, we may observe at the outset, that in the constitution of a separate School Final Board, Dr. Miller's long cherished aims of the appointment of a separate Board, for the Matriculation, have come to pass and, to-day, of course we find that the entire scheme is manned by a responsible body of gentlemen who, in their different capacities and turns, have been doing good work in the cause of secondary education in our Presidency.

Coming to speak of the conduct of the examination itself, I mean confining myself to two important aspects of the question, namely, the appointment of Examiners and Assistant Examiners and the present examination season. In connection with the former aspect of the question it may be said that the present system of recruitment of Examiners and Assistant Examiners, is, in many respects, an improvement upon the former systems and it is well-regulated indeed. Teachers are now entrusted with a responsible portion of the work and their claims to Assistant Examinerships are fairly well-considered, though it sometimes so happens that people who possess

experience and qualification are given preference to those with less who are fresh to the department and who are undergoing training in the College. It is not safe to pronounce anything definitely on this point, as I am not in full possession of facts and cannot claim to completely know the principles which govern such appointments. I should like to make a suggestion in this place to the effect that Headmasters and teachers of school, instead of being entrusted with the purely mechanical portion of the examination work, may be given a chance of co-operating with the Chief Examiners in setting questions on the various subjects. In a tentative scheme, like the School Final, it is believed, that a co-operation of the Chief Examiners of the several subjects, with a few teachers, will react beneficially on the school work and will tend to clearly determine for the school, the degree of efficiency which is expected of its candidates. I leave this suggestion to your mature consideration, and turn to the second aspect of our present topic, namely, the present examination season.

Gentlemen, on no other subject have I felt so strongly as I do feel now on the subject of the examination season, as it is at present and, in fact, a strong desire to ventilate my views on this subject before a gathering like this has led me to offer myself as a speaker on this occasion. I have sent many contributions on this subject, to several Journals and Newspapers on various occasions and I always speak on this subject with the confidence that I can have a thousand voices to echo my feelings and our representations and demands will be no mere crying for the moon. I have drawn the attention of the public to the impropriety and undesirability of holding the final examination in the dog-days of the year, in the "Hindu" of the 24th April last. This is, I need not tell you, a question of pressing importance which demands serious consideration and immediate attention. On a subject like this, any amount of agitation and representation on the part of the public

will be only in order, as the vital interests of the country are seriously involved in it. The pity is, that, as the system which eventually leads to disastrous and far-reaching consequences does not, to all appearances, seem to be immediately harmful, it fails to claim that consideration which it otherwise rightly deserves. It will be quite interesting in this connection to obtain statistical figures of students who fall victims to their obnoxious system of submitting them to the horrors of examinations in the hottest and most enervating season of the year. Examinations, by themselves, have got a peculiar place and significance in our country and are, in the opinion of some, calculated to defeat the very purpose, which they are, in all sincerity, intended to serve. In our country, especially, students who sit at examinations, are in the first place, expected to be mere walking Encyclopædia, posted up with a world of variorum information contained in a number of books which they might have been studying for the past three years and more and in which a number of examinations might already have been held. This filtration process is carried too far, and the false dignity which attaches itself to an examination and above all, the very unfavourable and trying circumstances in which they are held, render to our system of examinations, a character as phenomenal and terrible as it is highly detrimental.

It will not be out of place to note in this connection, how in the United States of America and other countries, the case is quite different, as for instance, there is no undue pressure placed on young brains and the periodical examinations held then and there, on portions of studies then gone through, are not considered as a nuisance by the student population, though at the same time, that system has been tried and found to be the most suitable, wholesome and productive of much good in the end. Such being the case, it is a matter for pity that here alone the tables are turned and our ruin is more

or less self-wrought. This is no doubt a web of difficulties from which we shall leave no stone unturned to extricate ourselves as early as possible, as the brain resources of our younger generation are being drained every hour and every minute by a very pernicious and unwholesome system of examinations, rendered all the more so by the enormous extraneous and undue pressure brought to bear on the young brains. The peculiar nature of the strain is such that, not to speak of madness, premature decay and other evils arising from it, it excited an unconscious and baneful influence on them and must inevitably lead to a premature decay of all the faculties which may otherwise be developed into potent factors of physical, mental and moral improvement and advancement. It cannot be denied even for a moment that the originators of the scheme had not had these considerations in mind when it was first framed, though, in spite of themselves, they have after all made it what it is at present, a curse to the people at large. It may be asked how a 'harmonious and healthy development of all mental faculties,' in the words of the pedagogue, is possible under such strange circumstances and what should have been the stronger reasons and wiser counsels that have prevailed in the end in favour of the existing system. Scientists also will gladly vote for us and with us in strongly condemning the holding of examinations, in a season when we are actually cooked in the burning mid-day sun. We may also remember how the present system which was some twenty years back, the talk of the day and which was in vogue even, for some time, was fortunately given up owing to the same reasons, we have urged above giving place to the 'January to December' system of school working which we all know worked well and tended to the best interests of the student population. In fine, we have to once more express our deep sense of horror at the ultimate state of things, to which the present system will drift and we earnestly

beg the Government to give it as much weight and consideration, as it rightly deserves and find its way to relieve the country from the impending ruin and to save the interests of the many innocent who are the men of to-morrow and in whom lie our hopes and our regeneration.

That was an evil day, Gentlemen, when the change was made and 'sufficient unto the day is the evil thereof' and there has dawned on me a ray of hope and already one of the Members of the Senate has given notice to the University of his intention to move the Senate to change the dates of the several University examinations from March to December and from April to January and to make also the consequential amendments in the regulations. If the University appreciates our demands and considers the change desirable, as we are sure it will, we can, in no distant date, expect a similar change in the dates of the School Final Examination, too.

Gentlemen, I have done and with the consciousness that my function, to-day, was indeed an agreeable one, but for the feebleness of the hands to which it was entrusted, I shall finish as I began, once more thanking you for the opportunity you gave me and for the patient hearing, which I had, at your hands.

MADRAS UNIVERSITY, University Elections.

At the University Elections for Fellowships that took place recently at the Senate House, Mr. K. Srinivasa Iyengar, B.A., B.L., High Court Vakil and Rao Bahadur T. Raghaviah were elected by the Registered Graduates, and Mr. A. W. Bishop, Director of Public Instruction, Travancore, and Prof. A. Subrahmanya Iyer of Presidency College, Madras, by the Faculty of Arts.

INDIAN HISTORY AND THE SCHOOL FINAL CURRICULUM.

HISTORY plays an important part in the education of children. It is a subject pre-eminently suited to the character building of the child. Every child is fond of hearing stories of heroes and great men, and tries in its own way to match them. History gives the child a vital interest in life, both of the past and of the present. It creates in its mind a sense of patriotism, and, in time, widens its sympathy for mankind. So history is one of the most important subjects which should enter into the education of a child, and should retain its compulsory character during the impressionable period at least of the child's mind.

Again, although the History of Great Britain is invaluable for Indian boys in more than one way, yet the interests of boys centre, at first, more around their own homes and country than around distant lands. So the history of his own country is more important to him than others and should consequently be made more interesting than is now generally being done in schools. But in the School Final Curriculum it has become the least interesting subject. The censure is often hurled on the head of the history teacher, that he neglects to make Indian History interesting to boys and that he himself is unpatriotic. It is too much for him to bear. The causes, at least many of them, lie far outside the history teacher. In the first place, Indian History is relegated to B Group of subjects which somehow or other carries an impression of unimportance with it. Of course, the intention of the authorities is good, for they want to make every boy read the history of his

own country without at the same time over-burdening his curriculum, and to give the teacher some freedom in the choice of the materials. But that intention is thwarted in practice. In spite of the teacher's enthusiasm to make Indian History interesting, an unholy impression has already been created in the minds of boys that, even though they may miserably fail in Indian History, they can easily secure entrance into a college, or a footing in any department, provided they manage to get the required percentage in the compulsory subjects. Hence the utter neglect of Indian History by students.

The second cause for the neglect is that most of the existing text-books on Indian History are unsuited to create interest in boys. They are either bare chronologies of facts, or advanced treatises on political theories, or clothed in high rhetorical style, and so beyond the comprehension of a Sixth Form student. In this connection I may say a few words as to the suitability or otherwise in the High School, of the History of India by E. W. Thompson, which is the only existing approved text-book, covering all the periods of Indian History and satisfying the requirements of the modern curriculum. It has got two or three faults which make the book not very valuable to Sixth Form students, much more so to Fifth Form or Fourth Form students. Firstly, its style is rather difficult for them. Secondly, much space is devoted to the philosophical portion of the Hindu religion: and to the various political abstract theories of the British East India Company. The book is somewhat too advanced for High School classes, and falls short of the expectations of higher class students. But there is a greater objection to its being used as a text-book in the High School. The objection

is from æsthetic point of view. He rarely fails, whenever opportunities occur, to invest a native woman ruler with a paramour in the person of the Dewan, and makes much of the number of wives an Indian ruler might have had. A woman ruling a kingdom is a rare thing. When she possesses such a great quality, we can safely assign her the quality of being chaste also. Apart from the question whether these trifles are historically true or not, it is open to objection on the point of taste and historical discrimination of facts. Not all the facts of History are valuable. Some are to be swallowed and some are to be eschewed. Some of them may even prove to be pernicious. So text-books containing pernicious facts may positively work mischief in boys, and instead of producing a patriotic feeling in their minds, only make them ashamed to read the history of their own country. Consequently good text-books in easy style, dealing more with social evolution, and the doings of great men and in handy volumes at moderate prices are imperatively needed to make Indian History thoroughly interesting. I think text-books on Indian History for High Schools may run on the lines of "The Pre-Mussalman Period of Indian History" of Mr. K. V. Rengaswami Iyengar, M.A., but in an easier style and in a handier volume. So much for text-books on Indian History for High Schools.

One important suggestion may be made here, to make the teaching of Indian History both interesting and useful. And that is to slightly modify the present School Final Curriculum, by taking Indian History over to A group subjects. It is often contended that already the pupils are over-burdened by the existing compulsory subjects, and that no more subjects can be added to them. Also that, if it is put in the C group, only a few pupils

would be made to take Indian History as one of their optionals. But the following suggestion will not, I think, in any way over-burden the pupils, and will at the same time make them all read the history of their own country. The suggestion is that Indian History can be tacked on to A group subjects as one of the non-detailed portions of English from which subjects for English composition in the form of historical essays can be set. It is not necessary that there should be a separate paper on Indian History. It is enough if interest is created by taking one or two subjects for composition from Indian History. That would certainly make them fairly acquainted with the broad outlines of Indian History.

The burden of the pupils can be somewhat lessened, if the detailed portion of English History is omitted, and if, instead of outline history and detailed history, a uniform middle course is adopted through all the periods of English History. I think the details given in Arabella Buckley's History of England are quite sufficient, even though some more details on the Anglo-Saxon, and the early Norman periods may be added. Of course this suggestion can lessen the burden of only the History students.

In addition to issuing suitable text-books on Indian History, source books of Indian History may also be issued giving interesting extracts from documents and religious books, or translations of them, on the line of source-books of English History.

In conclusion, I hope that these suggestions will attract the attention of those connected with education in this Presidency, and would enter into the curriculum in some form or other.

K. VIRARAGHAVA IYENGAR,

COMMERCIAL TEACHERS.

THE revolution in men's minds for a new order of things has called forth a class of men who contribute no less to the shaping of the young minds than others. Their existence in other circles does not claim our attention so much at present though we cannot totally ignore it. Their presence in the secondary schools, however, engages our thought on which depend serious issues for the future. Their origin can be approximately dated a few years back and, as belongs to the profession of teachers in general, they are carrying on their work quietly and smoothly. In them lie the seeds of future greatness of their pupils. It is too well-known that the prosperity of a country depends to a great extent on its commercial enterprise and, if that is accepted, they are the most potent factors in the furtherance of its cause.

The question of commercial education has much engaged the minds of right-thinking men. The institution of the Degree of Bachelor of Commerce marks an era in the history of Bombay and the establishment of the Government College of Commerce, aided chiefly by public and private bodies, marks yet another stage in the history of her progress. It is hoped that Madras also will follow this good example. Law, Medicine and Engineering are chiefly in favour with many in this Presidency but the time is not far off when commerce also will have its due share. In this we are only to be guided by our sister-city which had to pass through severe ordeals before the achievement of its object.

The first and foremost qualification for commercial teachers is that they should have a broad and liberal education. It is not enough to have acquired proficiency in com-

mercial subjects. Impressive teaching requires a special knack which cannot be possessed by all. The old monotonous method of making pupils learn by rote should be discarded. A great defect in the system now obtaining in the technical schools seems to be that no interest is created in the minds of the pupils for further study. What is barely required for the examination is taught them and that, chiefly from the text-books. What the teacher should do is to study various books besides the text-book. Some points will be better explained in some books than others. He should make a note of all points that come across his eyes and impress on the minds of the students with a clear and definite idea. The advantages of general education cannot therefore be ignored as it plays a very important part in understanding and digesting the various points that are studied.

It may not be out of place to mention here that commercial education, unlike general education, is of a practical nature. Persons engaged in the teaching of commercial subjects should, therefore, have a general grasp of the same in all their aspects and give instruction to students from a practical standpoint, and it is why men of higher education are absolutely necessary for such teaching.

In some schools it seems to be the practice to appoint unpassed men who have some proficiency in commercial subjects only. With due deference to them it has to be said that the teaching may suffer a little owing to the want of general education. The chief reason to appoint them seems to be that they are available for a comparatively lower pay. Those of them, who have the required certificates in commercial subjects, instead of wasting their time as teachers, may find some

situation as Ledger-keepers and so on. The Director's circular seems to be quite opportune at this juncture which requires only specially trained men to be appointed as commercial teachers. It cannot be denied that in some cases those unpassed men, who have taken diplomas, may be better informed than the specially trained men in so far as technical education is concerned. But that is no reason why they should take to the teaching profession. They can divert their energy profitably in other directions. The time has now come perhaps, to decide the question as to who should continue on the teaching line. The fact remains that the profession of a teacher is not very lucrative but still the rules require that only men with general educational qualifications should be appointed.

The managers seem to give preference to those who hold certificates of having passed some technical examinations. This is partly the reason, perhaps, why commercially trained men do not attract the notice of Managers and Principals especially as they do not hold the above certificates but have more than ample training. The Educational Department will do well to insist upon particular attention being paid to Typewriting in regard to the commercially trained men and upon a pass at any rate in some of these technical subjects which are passports in the eyes of the general public and the Managers and Principals of institutions. But that step does not seem to be absolutely essential at present. The method adopted may be one of suggestion rather than that of compulsion. The period of training may also with advantage be extended especially as the training class embraces many subjects for comprehensive study.

The lessons should be given to the pupils in the form of a narrative in a conversational style. To pass an examination even with honours is one thing and to teach is another thing. This distinction remains even among the cultured persons and much more so with those who have no University Degrees. Generally students in secondary schools are quite young and the impression in their minds should be firm and strong. There should be a method in teaching which will give further incentive to study. The notable example of appointing highly qualified men in the Government College of Commerce should be remembered. When the time comes to establish a College in this Presidency, such kind of men should be sought for or the existing men should be sent for training in the higher branches of study so that they may worthily fill up the posts when chances occur. Much encouragement should, therefore, be given to the existing men. No doubt the Government are taking a keen interest in the matter of commercial education and it is hoped that they will further extend their patronage.

Reference has already been made elsewhere about the importance of including commercial subjects in the College courses and of creating a new Faculty in Commerce just like the Faculty of Arts, the Faculty of Law and so on. A good many teachers will be required then and these trained men may still more specialise and fill up the existing vacancies.

As commercial education advances, commercial teachers will be in great demand and they will be highly valued and their services duly appreciated.

B. S. RAMASWAMI AYYAR.

NEW YEAR WISHES.

A mighty year has rolled away,
Of which would History say
That e'er unparalleled shall it be
View it as people may.

For ne'er as now was England called
Stern duty to obey :
To make a nation, deaf and blind,
Pursue the righteous way.

Behold in this dark cloud of war
A flash of tenderest love,
As India to her mother clings
And smiles, "E'er yours as now!"

May Fortune be with thee as well,
And shower her choicest flowers ;
May She bless thee with glorious health,
And render sweet thy hours !

S. SRINIVASAN.

YOUNG INDIA.

SUGGESTIONS FOR REFORM.

The following article appears in the *Times Educational Supplement* :—Criticism, to be profitable, must be constructive, and ours has hitherto been mainly destructive. If we now proceed to suggest means for the cure of the ills we have attempted to analyse, it is not in the belief that we can lay down a cut-and-dried solution of a problem which must tax a sound and instructed statesmanship, but rather for the purpose of making clear in a positive form the principles implicit in our negative criticism.

There are five principles which, as we think, ought to be held always in view by anyone who attempts to work out a solution of the Indian University problem.

(1) There cannot exist in India so many as 75 independent University institutions each

responsible for the whole course of under-graduate instruction. In the distant future, when all India is educated, and when the wealth of the country has vastly increased, there might imaginably be room for so many teaching Universities ; but not in existing conditions. The majority of the existing 75 Colleges ought therefore to cease to rank as full University institutions, and should no longer be permitted to pretend that they can give a University education to their students.

(2) A true University education can only be received in a real centre of living learning, where there are many scholars of distinction, who are free to teach their subjects in the way that best suits their gifts and knowledge, and where there are libraries, laboratories, and other teaching equipment on the amplest scale.

(3) In a true University system examination must not control teaching, but must follow it ; and the student must be from the first made aware that it is his duty not merely to pass an examination, but to understand his subjects, and that if he accepts the guidance of his teachers, employs his own mind in active criticism and inquiry, and uses fully the opportunities open to him, he will be successful ; if he tries to earn merit by cramming uncomprehended manuals, he will fail.

(4) The organization of students in collegiate groups under intelligent supervision has much in its favour ; and a collegiate system of this kind may be particularly suited to the conditions of India. But the College must not be allowed to control teaching, since that is the supreme function of the University.

(5) No student should be permitted to undertake University work who is incapable of profiting from it ; and, in particular, who does not possess an adequate command of the language in which the instruction is given.

How shall we give effect to these principles in the existing conditions of India.

ESSENTIALS OF A UNIVERSITY.

The first step should surely be to determine in what places there existed the real potentiality of a living University, and to concentrate upon these, we might begin with the Government Colleges, which are generally in the actual seats of the existing Universities, and, being under Government control, could be freely dealt with. They might be withdrawn from the control of the Director of Public Instruction, and completely merged in the University ; and to the definite teaching body thus formed might be added the schools of Medicine, Law, and Oriental languages, which have been established by Government, generally in University centres. We should thus have the essentials of a real teaching University, which ought, of course, to be further strengthened, but which might, when so strengthened, have a real claim to University rank. The chief professors of these merged institutions would become the professors, and the only professors, of the University. The control of this reconstituted University might, in non-academic matters, rest with a predominantly lay body like the present Senate ; but the control of purely academic questions of curricula, degrees and examinations should be entrusted to the assembled body of University teachers. Their teaching, and other teaching given under their authority in the actual University centre, should be the sole recognized instruction offered by the University ; the examinations in which they themselves should take part, would follow the lines of their teaching ; and no student who did not attend these recognized courses of instruction should be regarded as a student of the University, or admitted to its examinations. Furthermore, no student should be admitted to these courses of instruction who was incapable of following them, and a test definitely devised for this end, and especially involving a practical knowledge of English should be imposed, over and above the Matriculation or School-leaving examination, upon

every student seeking admission. In effect this means that the course of University instruction would begin at about the level of the present Intermediate, and that the bulk of the students would require some additional preliminary training over and above what is given in the ordinary Secondary schools. The minimum age of admission might be fixed at 18, and the minimum duration of the course at three years.

Such a series of sweeping but simple changes would give us about 12 Universities. Presidency College, Calcutta, would form the nucleus of one ; the new Universities of Dacca and Patna would serve Eastern Bengal and Behar ; a merger of the Muir Central College with the University and the Law School would make a real University at Allahabad ; Lucknow, with the Canning College and the School of Medicine, might either form a separate University or be linked with Allahabad in the same way as Aix is linked with Marseilles—some faculties being concentrated in the one city, others in the other. Aligarh and Benares would each have their own independent Universities. Agra, where there are two good Colleges (as Indian Colleges go), might be specially provided for in a mode to be indicated later. Lahore would form a good nucleus for a University with its University Hall, Offices, and Library, its Government College, and its Law and Medical Schools. In Bombay the Elphinstone College and the Medical School could readily be merged in the University. A second University for the Bombay Presidency might be made at Poona on the basis of the Deccan College and (if it is so desired) the Ferguson College. There would be a new University at Nagpur. Finally, there might be a similar merger of the Presidency College at Madras with the University.

LOCAL VARIATION AND AFFILIATION.

The only serious difficulty is presented by those cases where a strong College, doing good work, but scarcely strong enough to be the basis of an independent University, exist in a non-

University town; and where a district, not yet ripe for an independent University, ought to be encouraged to look forward to the establishment of one, and for that purpose to develop and strengthen its existing College. Such cases are presented by Delhi, Agra and Orissa. As Delhi is now the capital of India it ought, perhaps, to have a University of its own. But in the meanwhile both the case of Delhi and the case of Orissa, and all similar cases, might be provisionally, though not satisfactorily, dealt with in accordance with the plan suggested by the Royal Commission for London—of allowing local variation of curriculum and examination. Where a strong College, or group of co-operating Colleges in the same town, seemed to form the natural basis for a future University, and where for that reason it was undesirable to lower the level of their work, they might be affiliated to the nearest University on the basis that they drew up their own curricula subject to the approval of the Academic Council of the University, and conducted their own examinations with the co-operation of examiners appointed by the University. Thus the control of curricula by the teachers (which is *Lehrfreiheit*) would be maintained without, on the one hand, unduly multiplying the number of Universities, or, on the other hand, crushing out of existence Colleges in centres which might reasonably be encouraged to look forward to University rank.

On this scheme we start with about a dozen real teaching Universities some of them linked with incomplete Universities in a state of semi-independence. But this only accounts for at most about 20 of the 75 Colleges. What is to happen to the rest?

COLLEGES IN UNIVERSITY TOWNS.

They fall into two clearly defined groups, which would call for different treatment. In the first place, there are the Colleges established in University towns, where students could therefore attend University courses. Thus, in Lahore

(which is most fortunately situated in this respect) there are the Forman Christian College (one of the better Missionary Colleges), the D. A. V. College of the Arya Samaj (with about 1,000 students), the Islamia College for Mahomedans, and the Dyal Singh College founded by the Brahma Samaj. No one would desire to see these Colleges crushed out of existence. The corporate life which they offer is of great value. They have their own specific atmosphere. They have a highly developed residential system. They give to the adherents of different religious faiths confidence that their sons will be kept in touch with the spirit and ideas of their ancestors. But these colleges would have several invaluable functions to perform:—(1) They could take in hand students not ripe for admission to University classes, and bring them up to the required level of proficiency. (2) They would not only serve as halls of residence for University students but continue to be, in a real sense, Colleges, impressing their corporate spirit upon their members, and also giving them tutorial assistance in connexion with their University courses. (3) The best of their tutors might very properly be recognized as University lecturers, give courses of instruction open to the whole University, take part in examinations, and sit on the Academic Council. But, of course, such recognition should only be given to teachers of real originality and distinction. Such are the true functions of these Colleges: to supplement and enrich, not to take the place of, University teaching. They would probably at first resent this suggestion as a degradation of their status. But their new position would bring all their strength into play without disclosing their weakness, and under such a system as here suggested, their students would enjoy a vastly richer and fuller University life than is now open to them. The more Colleges of this type were established in a University town the better; and Missionary societies, Indian religious organizations, and other bodies should be encouraged to establish them.

THE "MOFUSSIL" COLLEGES.

There remain the numerous *mofussil* colleges scattered over the country-side. Some of these, in the new conditions, might wish to be removed into the University town, and wherever this seemed desirable, liberal assistance should be given to enable them to do so. In some cases a Native prince who had founded a College for his subjects might feel that he wanted a means of ensuring that his money was spent only on his own subjects, and on their full training. It would be easy for him to maintain a residential College for them in the University town, or a system of maintenance scholarships; either of these would cost as little as the maintenance of a whole College in the State capital. But there would remain many Colleges not capable of transplantation. They would have to fall to the rank of what are now called "second-grade Colleges" taking students only up to the level of the existing Intermediate, which would correspond to the future admission standard; and there are very few of them that really deserve a higher standing than this.

In most cases these *mofussil* Colleges have grown out of, and are simply extensions of, High schools. Their connexion with their related schools would under the new system become more intimate. At the close of the school course, at the age of 16 or 17, the student would pass the Matriculation or School-leaving examination, designed primarily to test whether or not he was fit to enter a University but whether or not he had been profited to the full extent by his school course. If he intended to proceed to a University he would then enter a College, where for one year or two, according to his ability, age, and attainments, he would be given a working knowledge of the English language by English-speaking school-masters, would be trained to read books (not for textual examination) on the subjects he would later study, and would be given a training in scientific method in the laboratories of the

College. Then, going up to the University, he would pass the supplementary test, and go into residence either in one of the University hostels or in one of the Colleges in the University town. In performing these functions the *mofussil* Colleges would be performing functions within their capacity, and of real value and importance. They would form the essential links between the school and the University.

ADVANTAGES OF RECONSTITUTION.

This scheme would give to India 12 or more real teaching Universities—which is quite as many as the country at present needs—most of which would be surrounded by a group of residential Colleges, each marked by its own character, but not arrogating the teaching functions which properly belong to the University alone. It would enable the Colleges to do far better work by limiting them to the work which they are capable of doing really well. It would provide, in the reconstituted *mofussil* Colleges, a much needed link between the schools and the University, and solve in a natural and easy way the problem of entrance tests. It would dethrone the examination from its present desolating supremacy by reducing it to dependence upon the teaching. It would establish freedom of teaching and make it possible to demand a real standard of attainment from the student by ensuring that he always had the best available teaching and access to libraries and laboratories. What changes it would involve in the scheme of curricula we do not propose to say, since, unlike the Dacca Committee, we believed that the drawing up of a curriculum and the definition of the content of subjects must be left to the teachers. But certain things would seem to follow from what we have said. As the students would begin University work with an adequate knowledge of English, compulsory English throughout would be no longer necessary. Its disappearance, together with the increased resources of the concentrated University centres, would render possible the esta-

ishment of real Honours courses for the better students; and from these would come, in time, independent research work, inspired and directed by teachers who enjoyed freedom.

PROBLEM OF UNIVERSITY TEACHER.

But there remains a problem of some difficulty. The whole hope of success in this or any other scheme of reform depends upon this quality of the University teachers. How are they to be appointed and whence are they to be obtained? At present the teachers of the Government Colleges are, as we have seen, appointed in two ways—the Indians in India by the Director of Public Instruction, the English in England by the Board of Education acting for the India Office—and they are enrolled in two distinct services according to race. The teachers of the other Colleges, whether English or Indian, are directly appointed by the College authorities. The mode of appointment in the Government College is admittedly unsatisfactory. Enlistment to a service is an extremely bad way of providing University professors; the men so enlisted naturally find their ambition in service promotion, rather than in the acquisition of reputation in their subjects. And the existence of two services, differently recruited and differently paid, has many unhappy effects, and introduces a source of division which ought not to exist in the reconstituted Universities.

Moreover, there is another difficulty of the present mode of appointment which is seldom noted. There is an understanding that a rough proportion must be maintained between the English and the Indian members of a College staff. The practical result of this is that certain chairs in each College are in effect reserved for English and others for Indian candidates, for in that way alone can the proportion be maintained when the appointments are separately made. This may lead to unhappy results. The chair of Mathematics may, for example, have been held by an Indian. In case of a vacancy it goes to another Indian, though no good Indian candidate and many good

English candidates may be available. The chair of History may have been held by an Englishman. The Board of Education may, on short notice, be unable to find a suitable candidate and be obliged to appoint a man whose sole credentials are, say, a third in Greats; there may be an excellent historian in India, but he cannot be appointed. Even the Englishmen engaged in educational work in other Indian Colleges, say in a Mission College, are practically excluded from consideration. It is clear that the service recruitment and the reservation of particular chairs by nationality which follows from it ought both to be abandoned.

A SUGGESTED SOLUTION.

But how is the difficulty to be overcome? It is clear that there must be both Englishmen and Indians on the professorial staffs of the Universities, though the proportion between them need not be rigidly fixed. India is as yet far from ready or able to staff her own Universities wholly with her own sons; and even if she were ready, it is essential that the student should be brought into contact with some English teachers. Two methods of dealing with the problem suggest themselves. One is that the reconstituted Universities should be given a free hand in the appointment of their professors, subject to a regulation fixing the minimum and maximum number of Englishmen who should hold chairs at any given moment. Much could be said in favour of this device as an essential expansion of the idea of University freedom. But there are strong reasons against it, the chief of which is that the Universities would find it difficult to keep in touch with the available field in England, and to know when the occupant of a vacant chair should be sought in England and when in India. The other method would be that, once the Universities were reconstituted, the Imperial Government should take a leaf from the book of Germany, and assume direct responsibility for professorial appointments, while leaving minor appointments in the hands of the

Universities. This could be done by appointing a suitable man of academic antecedents, who should spend every winter in India, making himself intimately acquainted with the needs and personalities of the Universities and keeping in touch with all promising men, whether Indians or Englishmen, in the service of Mission or other Colleges; while he would spend the summer in England, or sometimes in America or Canada or Australia, keeping in touch, there also, with promising men, and stimulating young men of ability to consider the opportunities which an Indian career present. In the present condition of India it is very likely that some such arrangement would, at any rate for a period of years, provide the best available solution.

CONCLUSION.

There are many other themes that deserve consideration, such as the salary and allowances which ought to be paid to secure suitable teachers, the desirability of a special travelling allowance in the summer to enable teachers to come to Europe for purposes of research, the importance of establishing links between the teaching career in England and India so as to ensure that the young Englishmen going to India should not necessarily feel himself permanently banished. But these and other questions fall rather to be considered by those who are drafting an actual scheme of reconstruction. That is not our purpose; we do not imagine that the proposals here set forth from the best or the only solution of a complex problem. Our sole aim has been to demonstrate that the problem is not incapable of solution. And clearly, if that is so, it is the duty of responsible statesmen not to potter and tinker with it in a Deccan spirit, but to face the problem as a whole boldly. For it is essentially the problem of the future of India, the problem of whether the growing public opinion of India is to be formed and guided by men who have been trained to think, or (as now) largely by men whose training has been such as to stunt their powers of clear thought and sane criticism — *The Hindu*.

EDUCATION IN THE MAGAZINES.

(INDIAN.)

The Matriculation Age Limit, by Dr. George Howells, Principal, Serampore College.

The question of the Matriculation age limit is evidently arousing considerable interest among thinking men; and all, Indian and European, concerned with the progress of Education in Bengal, are following with manifest attention the progress of discussion now proceeding on the subject in the Senate of the University of Calcutta. As the one responsible for first raising the matter in the Syndicate, I feel that perhaps a review of the circumstances in which the question was raised and of the problem as a whole may be helpful to those who desire to understand more clearly the issues involved.

Some months ago while officiating as a member of the Syndicate, I was asked to represent the case of an Anglo-Indian lad of my acquaintance whose educational career, for special personal reasons, was in danger of being considerably interfered with, on account of the rigid nature of the present rule regarding the Matriculation age limit. This lad when at school, succeeded in qualifying for the Senior Cambridge Certificate under such conditions as exempted him not only from Matriculation, but also from the Intermediate Examination of the University of Calcutta. Now for the Cambridge examinations there is no age limit, and when he applied to be allowed, after the usual two years' course in an affiliated College, to sit for the B. A. Examination, he was met with the objection that he was too young, in accordance with the Regulations regarding age for the Matriculation. The members of the Syndicate recognised the hardship involved in the particular case, but the general feeling seemed to be that it should be met not by exceptional treatment, but by modifying the rigidity of the Matriculation rule. Any benefit derived from such modification would thus be shared by Anglo-Indians and Indians alike, by those who took the Cambridge Examinations as well as those who matriculated in the ordinary way. After considerable hesitation and mature consideration of the issues involved, I felt that in the interests of brighter pupils, some modification of the present rule was desirable, and so I proposed to the Syndicate that the age limit—sixteen—should be reckoned not from the first day of the month (*viz.*, March 1st) but from

the last day of the year (viz., December 31st) in which the Matriculation is taken. The Syndicate, on the recommendation of the Faculties of Arts and Science, adopted this proposal, and this is the resolution now being discussed in the Senate. Personally I support the proposal on the following grounds:—

(1) There is no University in the British Empire in which the age limit—as it affects qualification for the B. A. pass degree—is so high as it is in Calcutta. Oxford and Cambridge have no age limit. The newer British Universities take 16 as the Matriculation limit and the course for the pass degree extends over 3 years as compared with four years in Calcutta. A bright English student is thus able to qualify for the pass degree in these Universities at the age of 19. In Madras and some other Indian Universities the age limit is 15. In Bombay the same rule holds good that is now being proposed for Calcutta. It must further be remembered that the Universities Commission recommended 15 as the suitable age. Why should it be necessary to maintain a higher age limit in Bengal than elsewhere? No student residing in Bengal, whether European or Indian, can qualify for the B. A. pass degree before he is 20.

(2) The present rule inflicts real injustice on some of our brightest Indian boys. To speak with moderation a bright lad has no difficulty in qualifying for the Matriculation examination by the age of 15 or so without any forcing. We now however compel him to remain at school for another year or more. It has been pointed out that English boys often stay on at school until 18 or 19 and consider it no hardship. In England it is no hardship because the average English Secondary School is adequately equipped for taking on boys for two or three years after they have reached the Matriculation standard. In Bengal there is not a single Indian Secondary School equipped for such work and a number of boys at present are compelled to remain for 2 or 3 years in the Matriculation class doing the same work over again. Such compulsion has a demoralising effect on the boys concerned and on the school. I venture to say that there is not a single European educationist who would not, if it affected his own boy, consider such compulsion an injustice. He would unhesitatingly question the necessity and the recent rigidity of such a rule. 'But, ha!' says a prominent member of the Senate, 'the English people have common sense, so no rule for them is necessary.' When the Indian parent wants the same freedom as is

enjoyed by the British parent, he is warned with prophetic indignation—'Unstable as water, thou shalt not excel.' In this matter I can do no other than place myself in the place of the Indian parent or teacher for this is the only course consistent with the injunction—'Whatever ye would that men shall do unto you, do ye even so unto them.'

(3) It needs to be remembered that the change proposed is a very moderate one, as the average bright boy will still be 16 when he begins his College course. At present the bright boy qualifying for the Matriculation before the age of 16 cannot sit for it unless he is 16 on or before March 1st. That means that the average age of such boys is 16 years, 6 months. He begins his College course 4 months later, viz. (July), when he is 16 years, 10 months or practically 17. Under the proposed new Regulations he must be 16 on December 31st. The average bright boy under this rule will thus be 16 years and 6 months on December 31st or just 16, when he begins his College course. Are we lowering the standard when we admit boys to College at such age? I do not consider that the facts warrant such a conclusion. I have been looking into the question of age and qualifications of the first year students of Serampore College, when they took the Matriculation. The average boy was 17 years, 9 months or 18 years and 1 month when he commenced his College course, 4 months later. It is also significant that there is a far larger percentage of first classes among the 16 year old students than among those of older growth. There is no warrant for the statement of a member of the Senate that boys admitted to the first year College course are babes; nor for the statement that if you lower the age in any degree you thereby of necessity lower the standard.

(4) There are at present safeguards of no ordinary character against boys qualifying at an unduly early age for the Matriculation Examination. Before a boy can enter a high school he must, under the present system, be able to read and write Bengali with some degree of ease and know the simple rules of Arithmetic. He would thus at least be 7 years of age on entering and he is then required to pass 8 years in the High School classes. Formerly it was customary to allow boys to pass 2 classes in one year. Now all that is stopped and the mechanical action of this rule makes undue pressure in our High School practically impossible, thus preventing unwise parents or teachers (these are not limited to Bengal) from forcing their promising sons or pupils. We can therefore afford to be somewhat

less rigid in our application of the 16 years old rule for the Matriculation.

(5) The modification of this rule will help to place the Indian student who is a candidate for a higher degree on a level, so far as age is concerned, with the British student. I take it that an Honours degree at Oxford and Cambridge, an M. A. Honours in the Scottish Universities, and the M. A. degree of such Universities as London and Calcutta, are meant to represent approximately the same standard of attainment, though of course so much depends on the individual candidate. The average bright British student has no difficulty in qualifying for such a degree before he is 22. It is not fair for a variety of reasons to handicap the bright Indian student in this respect.

(6) If we deal with things as they are we are compelled to place the burden of High school work on the Colleges. They are the only institutions equipped for the purpose. If we pass to-day a regulation raising the age of Matriculation to 18, would it serve any useful purpose in raising the standard of education? Emphatically I do not think so. You would only lower the standard by compelling our schools to attempt something that they are not equal to, and you would demoralise our old educational system. It has been suggested that we should add a year to our school course and reduce the 2 years M.A. course to one year. That would be a retrograde step in every way. Our M. A. arrangements are by no means perfect, but they are a worthy and promising contribution to real University education. Our High School arrangements on the other hand are totally inadequate, yet it is seriously suggested that we lighten the burden of strong men to make the burden of weaker men still heavier.

(7) Finally I would suggest that the only permanent way of raising the Matriculation standard is by improving the equipment of our schools and instituting a Higher School Certificate that would exempt those who take it, from the University Intermediate Examination. Here it is for the Government in consultation with the University to lead the way. Provided the schools with a Leaving Certificate such as I suggest and many Indian parents like British parents would gladly keep their boys in school until they are 18. The policy of insisting on the higher age limit independent of High school equipment is equivalent to placing the cart before the horse.—*The Statesman.*

"English Poetry of three Indian Poets," by Mr. J. C. Rollo, M.A.

The anniversary meeting of the Kerala Debating Society attached to the Zamorin's College, Calicut, was held in the College premises with Mr. Allan Campbell, Executive Engineer, in the chair. Mr. J. C. Rollo, M.A., Principal, Pachaiyappa's College, Madras, delivered a lecture on "English Poetry of three Indian Poets."

I have come to speak to you about the English Poetry of three Indian Poets. It is not so very easy to do it as it provides material for many lectures—Sarojini for 2, Thoru Dutt for 4 and Rabindranath for a very minimum of 12, and I have to try to give a short account of them. There is also a difficulty that arises when one remembers that a considerable section of the audience do not know these people at all. To those who do not know where the peculiar power and the peculiar influence of these people lie, I can only do the best that I can in the matter.

Many are the troubles and sorrows of an Imperial race. They have to be always givers and builders, and their giving and building are made the more difficult because it is never possible beforehand to lay down a plan. They have to give not merely of their resources but of their intellect and the knowledge of the best of their men. They have to welcome exile. To them sometimes long wearied is the reward, and the reward is evidenced by the results. The hardly professed belief is evidenced in a crisis like the present when the devotion and the understanding and the resolute and emphatical support of the peoples who belong to the Empire, prove how excellently all has been done. But such support in war, such political support even in itself produces success but is not the crown of all imperial endeavours. It seems to me that the crown is placed upon it when the children of the Orient undertake to provide to it that which is most precious in them, their genius when they are ready to commit their very songs to it, singing not for a small people but for an Empire. That is what has been done by these three people of whom I speak, and in chief by Rabindranath.

The time was opportune. When Rabindranath gave his songs, there was a necessity for them. Indeed it was impossible to describe the decadence of English poetry at the time when Rabindranath stirred and woke them. Poetry had been vulgarised by English poets who sang for the Empire. Rabindranath's absolute knowledge of things, his entirely creative faculty and originality

and his sham less sincerity were striking in effect. There was no saying what his impulse would do for the future of English literature. The reason why these Indian poets wrote in English instead of illuminating their vernaculars was that they required a larger and fitter audience to respond to them. Sarojini and Thoru Dutt were composite creatures. They were intensely Indian but had something of western influence that modified them, their thoughts and songs. It was impossible for them to express adequately the message that has become native to them in any language but English. Rabindranath, of course, was on a different plane altogether; so spiritual and so universal was his message in its spirituality that it had not the need of a special language. He wrote his poems in his mother-tongue and they shone equally when translated.

Going into the merits of the poems of the three poets, the lecturer said that Thoru Dutt died before she matured her wonderful poetic genius. She however left much that is beautiful and promising. Her passionate love of nature and richness of imagery were marvellous features. The lecturer read out excellent selections illustrating the special traits of her art. Sarojini was not "great" in any direction but her poems possessed peculiar charms of pathos and tenderness. Her exquisite music was in unison with her intellectual delicacy and touched the heart. The lecturer gave striking specimens of her poetry and explained his remarks.

"A Chapter in the History of Vizianagar," by Mr. V. Rungachariar, M.A.

The second day's meeting of the autumn Session of the South Indian Association took place at the Presidency College, with the Hon'ble Dewan Bahadur P. Rajagopalachariar in the chair. Mr. V. Rungachariar, M.A., Assistant Professor of History, Presidency College, was called upon to deliver his lecture on a Chapter in the History of Vizianagar. The lecturer began by dealing with the chronicles relating to the various political, social and religious effects which the Vizianagar rule had on Chola and Pandaya land. The history relating to social and religious effects had been a sealed book, and the lecturer said that his object was to describe in detail the racial migrations and movements of Telugu and Canarese people into Tamil districts. The Vizianagar conquest introduced a new epoch in the history of South India and it gave rise to a singular complexity of Telugu generals and Viceroy in Tamil country. The history of Madura in the Vizianagar period was the history of a dual power, one of a local rule and the

other of an extraneously viceregal rule. The relations between the two were more cordial than otherwise. The Viceroys confined themselves to the collection of revenues, remittance of tributes, &c. The influence of Vizianagar rule was stronger on South Indian Society than on South Indian Government. Telugu colonies came to existence in Tamil districts and Telugu habits and customs mingled with Tamil ones, the civilisation of the Vadugas. Wherever there were military encampments there were necessarily Telugu and Canarese settlements of all castes and communities.

The lecturer then proceeded to give an interesting account dealing with the origin of the various Poligars and their habits and customs in the districts of Madura, Trichinopoly, Tinnevely, Salem and Coimbatore, and the portion relating to Thottiyans and Reddis was specially interesting. The advent of the Sourashtra community from Guzerat into the Tamil country led to friction between the members of that community and Brahmans. The religious freedom of the Hindus had disappeared between 1337 and 1370 A. D. Mussalman influence was at its highest in Madura at that time. Kampana Udayar and his lieutenants of the Vizianagar dynasty revived worship in Hindu temples after 1371 and Vizianagar sovereigns fostered all religious activities. Both Vaishnavism and Saivism were encouraged by those sovereigns and they organised festivals at State expense. Their range of liberalism knew no bounds, and examples of endowments to mosques were not wanting. There was harmony among the various peoples of the Empire. Art and literature were encouraged with equal generosity.

Humour in Sanskrit and English Literature. by Mr. C. P. Ramaswamy Iyer, B.A., B.L.

At a meeting of the Honour Literary Association held in the Presidency College, Mr. C. P. Ramaswamy Iyer delivered an interesting lecture on "Humour in Sanskrit and English Literature." The Hon'ble Mr. P. S. Sivaswami Iyer presided. The lecturer said that in a review of the works of Rabindranath Tagore it was stated that the Indian mind was deficient in appreciation of humour and that work was the highest attempt in humour and it was this statement that induced him to see how far it was true. He defined what humour was and said that the Indian work showed a lack of the appreciation of the distinction between wit and humour. In the lyrical and the ethical and the dramatic works Indian had succeeded exceedingly well, but in the humorous line they found

very little. He doubted very much whether excepting the "Hitopadesa" and the "Panchatantra" they had any humorous works at all. But those works also were not appreciated as they ought to be as they were taught very early to the boys who were not at an age to appreciate to the full the lessons they taught. They resembled the Aesop's Fables in that the animals were made to take parts to show the defects in the human character, but they were of a much higher standard than the Aesop's Fables. In the dramatic literature in Sanskrit, excepting for the interludes provided by the *Vidushaka* they did not find any thing worthy to be called humorous. They are works showing an ideal. Besides these they had works like the "Kathasarithagara," but they could not be called humorous. There were then some recent productions called *Prahasaras*, small brochures but they could not be called humorous, they are lampoons appealing to the fantasting and grotesque. The lecturer then gave various instances of the humorous works in English. Don Quixote was one of the best works of the kind. They found humour in the highest kind in Shakespeare, Addison, Charles Lamb, Charles Dickens, Thackeray and other novelists and writers. He gave instances of various kinds of humour found in English works and asked them to distinguish real humour from satire and that sort of wit which Mark Twain used to indulge in his wild moments which was intended to hit and thrust. The reason why Sanskrit did not produce works of humour was because the time when the Sanskrit literature was produced was one when people were engaged in the serious and the heroic. That period of comparative peace and plenty when people would look into the life to produce works of humour had not existed in India.

The Chairman thanked Mr. Ramaswamy Iyer for his very interesting lecture and concurred with him in his opinion about the cause of the lack of humorous productions in India. He spoke about the laboured artificial humour such as is found in Chesterton's writings and in after-dinner speeches and told them to distinguish it from that real spontaneous humour that came from the heart. He said that although India had not produced much works in humour it was not correct to say that Indians could not appreciate humour. They knew individually that a large fund of humour existed in them which they found in ordinary life and they appreciated works of humour in English. They had to cultivate humour by reading works of humour. They could not, however, expect India to produce works of humour until a large sense of the humorous had been cultivated.

XX

THE UNIVERSITIES.

CALCUTTA UNIVERSITY.

Dates of Examinations.

The Preliminary Examination in Law to be held in January 1915, will be held on the 4th, 5th and 6th January 1915.

The Intermediate Examination in Law to be held in January 1915 will be held on the 11th, 12th, 13th and 14th January 1915.

The Final Examination in Law to be held in January 1915, will be held on the 25th, 26th, 27th and 29th January 1915.

The next Preliminary Scientific M. B. and the Final M. B. Examinations will be held on the 6th April, 1915 and followings days.

The next First M. B. Examination will be held on the 19th April 1915 and following days.

Applications and fees for admission to the aforesaid examinations must reach the office of the Registrar on or before the 23rd March 1915.

The M. A. and M. Sc. Examinations in 1915 will be held on the 21st June 1915 and following days.

Applications and fees for admission to the abovenamed examinations must reach the office of the Registrar on or before the 22nd March 1915.

The I. E. and B. E. Examinations in 1915 will be held on the 5th July 1915 and following days.

Applications and fees for admission to the abovenamed examinations must reach the office of the Registrar on or before the 21st June 1915.

Matriculation Age Limit.

A meeting of the Senate of the Calcutta University was held at the Senate House College Square on the 21st ultimo, the Hon. Dr. Devi Prasad Saravadhikari, Vice-Chancellor, presiding. There was a large attendance and the debate on the question of the University Regulations with regard to the age limit of the students appearing for the Matriculation Examination was keenly debated for three hours.

Before the business on the agenda was taken up feeling references were made to the death of Earl Roberts and of Sir Taraknath Palit.

Sir Gurdas Banerji then moved that Section 3 of Chapter XXX of the University Regulations be altogether omitted. He said he had not been wanting in respect for his colleagues in having the temerity to bring this motion forward after its rejection by the Faculty of Arts and Sciences. If he did not move it he would be wanting in sincerity

Reviews and Notices.

THE WORLD AND ITS DISCOVERIES BY H. B. WETHERILL (CLARENDON PRESS).

as his confidence in the soundness of the proposition remained unshaken. It was, he urged neither necessary nor desirable to fix an age limit. On the score of health parental care would be a sufficient safeguard against very young students ruining their health. With regard to the objection that when these students entered college they had such an insufficient knowledge of English as to make it difficult or impossible for them to profit by the lectures of the professors, he said that even admitting their imperfect knowledge of English, they heard the same complaints as regards the older students and the remedy was to improve the system of teaching. As to students of immature age being unfit for hostel life, the college authorities might see that such students made their own arrangements to live with their parents and guardians. For these reasons he thought it could not be said this rule was necessary. On the point as to whether it was desirable he urged that it imposed a heavy burden on schools and colleges in keeping a record of ages.

Dr. D. N. Mullick, seconding, said it was an artificial rule which did more harm than the evil it was intended to combat. The only points urged for its retention were really faults of the educational system.

Professor Archibald, Principal Turner, Professor Sudinerson, Dr. H.L. Halder, Principal James and many others opposed the motion.

Sir Gurudas Bannerji replied at some length to the arguments advanced against his motion which was put and lost by a large majority, only three voting in its favour.

PUNJAB UNIVERSITY.

Convocation.

The Convocation of the Punjab University was held on the 19th inst. His Honour the Chancellor with Lady O'Dwyer and a distinguished gathering were present. In the course of his address the Vice-Chancellor reviewed the progress made by the University since its foundation.

This volume belongs to the series of Oxford Geographies. Its object evidently is to arouse an interest in the stories of discovery and then utilise it in behalf of Geography. The volume opens with the voyage of Hanno the Carthaginian in 500 B.C. in connection with the exploration of the west coast of Africa. The concluding chapters deal with the exploration of the interior of Australia in the later half of nineteenth century. Mango Park, Livingstone, Stanley, Linschoten, the adventurous young Dutchman who came to India in 1583, Marco-Polo, Abbé Huc, Columbus, Pizarro are great names in the history of exploration. The lives of these and other great explorers and the scenes of their labours are described for us in language at once simple and clear. There is a wealth of geographical information associated with the central human figures. The readers of these stories of exploration can easily contrast the past with the present region and understand that influence of civilised man in modifying natural conditions. The stories narrated in this book further tell of man in the many stages of savagery, barbarism and civilisation. This book has a high educative value and ought to be popular with teachers and pupils of Geography.

THE BRITISH EMPIRE BEYOND THE SEAS: AN INTRODUCTION TO WORLD GEOGRAPHY, BY M.T. NEWBIGIN, D. SC. (BELL & SONS).

Miss Newbigin's books on Geography are always popular. The volume before us is a welcome addition to the series of excellent text-books on this subject. The merit of this book lies in the fact that throughout, the human side has been kept in the forefront; an attempt has been made to answer such questions as "How do people live? To what climatic conditions are they exposed? What crops do they grow, etc.?"

It is often pointed out that the British Empire is no geographical unit and the study of various parts of the Empire will not help the students to approach the study of the World Geography on scientific lines. The author shows that scientific study is possible in the case of British Empire as an introduction to the World Geography, as, within the British Empire we find types of almost all natural conditions of existence of

almost every stage of human society. In the case of the Russian Empire and the Chinese Empire, for example, there is throughout a certain degree of sameness in climate, product, races of men, religion, types of human society and so forth but heterogeneity of the territories included in the British Empire is in marked contrast with the relative homogeneity of either Chinese or Russian Empire. In the treatment, the author does not follow the hum-drum method of "the Empire in Asia" "the Empire in Africa" "the Empire in America," etc. Places which resemble one another are considered together to save repetition. The Empire is divided into certain natural divisions. The chapters in Part I are taken up with the considerations of the determining features of the natural region. After discussing the chief kinds of climate, the products of climatic regions, the author proceeds to divide the British Empire into natural divisions taking into account climate, products, the possibilities of settlement, the presence and the absence of native population.

Throughout the book an effort has been made to emphasize the representative character of the various states and dominions discussed. The book has several unique features. It is the most satisfactory text-book on the Empire so far as is seen. At the end of every chapter are the summary and a series of questions and exercises which are very suggestive.

PADMINI: AN INDIAN ROMANCE IN TAMIL, BY V. MUTTUSWAMI AIYAR, M.A., L.T. As. 12.

We gladly welcome this book. Mr. Muttuswami Aiyar has won success in the difficult task of making an adaptation look like an original production. The work that he renders into Tamil is the well-known Romance in English—*Padmini*—of Rao Sahab T. Ramakrishna Pillai. The work of adaptation is so well done that it is very difficult to trace the malign influence which a foreign idiom invariably exerts. The Tamil is very limpid, and the verse which is occasionally introduced is of a high order of merit. Mr. Muttuswami Aiyar expresses himself both in prose and verse with equal facility. While this book itself gives abundant proof of his easy command of classic Tamil, he has been able to write this book in language which savours of neither pedantry nor colloquialism,—a real achievement for those who have intimate knowledge of the language of erudition,

The Sanskrit words which Mr. Muttuswami Aiyar has occasion to use are spelt in a way which shows plainly that he adopts, not what may be called the Etymological basis, but the Phonetic basis. We are glad that the University, which has prescribed this book for one of its examinations, has thus at least countenanced the introduction of reforms into Tamil.

VIJAYA KARUNIAM, BY A. BALAKRISHNAN, B.A. (G. S. AIYAR & Co.). As. 12.

In spite of the aversion and contempt with which the University looks upon and treats Tamil, there is scope for the growth of Tamil,—at least in the field of fiction. There is hope for the vernaculars as long as the younger generation takes a keen interest in the well-being of the mother-tongue. It is a sign of the times,—not without a moral,—that young gentlemen of the type of Mr. Balakrishnan are taking some pains to do some literary work,—at great sacrifice,—in Tamil. If even a few of the young men who seek to improve Tamil can write half as well as Mr. Balakrishnan, we may be confident that Tamil is bound to progress very considerably in a short time. But we welcome this book, not merely because it is an indication of the interest of the younger generation in Tamil, but also because the novel itself is attractive. Mr. Balakrishnan has no particle of the now too common desire to throw a veil over poverty of thought and of expression by introducing heroes and heroines in Western costume or by adopting the numerous devices which easily subserve the ends of the novelist who panders to a sickly imagination. The language is slightly pedantic, but we must admit that this danger has to be run if we would avoid a colourless style. The book richly deserves perusal, and we wish that Mr. Balakrishnan gives us more of his Tamil.

PUBLICATIONS RECEIVED.

- Geographical Exercise Books :—1 The British Isles, with Questions, by B. C. Wallis, B.Sc. London : Macmillan. 6d.
- A First Book of Geology, by A. W. Wilmore, D.Sc., London : Macmillan. 1s. 6d.
- Elements of Geometry, Parts I—IV, by Barnard and Child, London : Macmillan. 4s. 6d.
- Matriculation English Course, by J. C. Nesfield, M.A. London : Macmillan. 3s. 6d.
- Siepmann's Elementary German Series : Ferdinand Schmidt's Reineke Fuchs, edited by A. L. Gaskin, M.A. London : Macmillan. 2s. net.
- Longmans' Modern Mathematical Series : Projective Geometry, by C. B. Mathews, M.A., F.R.S., 5s.; The Teaching of Algebra including Trigonometry, by T. Percy Nunn, M.A., D.Sc. London : Longmans. 7s. 6d.
- Stories of Greece and Rome, by Hilda Johnstone, M.A. London : Longmans. 1s. 6d.
- The Simpler Parts of Speech, by P. C. Wren, M.A., I. E. S. Bombay : Cooper.
- The Golden Book of English Verse, by J. W. Holme, M.A., I.E.S. Bombay : Cooper.
- The Mamluks of Egypt, by the Rev. Canon Sell, D.D., M.R.A.S. Madras : C.L.S. 4 as.
- Food for Reflection, by 'Abd' Isa Madras : C.L.S. 8 as.
- Bible Lessons for Little Beginners, Madras : C.L.S. 8 as.
- Oxford Garland of Patriotic Poems. London : Milford. 7d. net.
- A First Course in Mathematics for Technical Students, by P. J. Haler, B. Sc., A. M. I. Mech. E., A.I.E.E., and A. H. Stuart, B.Sc., F.R.A.S., London : Clive.
- Modern Europe, 1815—1878, by Richard Lodge, LL.D. London : Murray. 2s.
- Daily Mail World Map of War and Commerce. London : G. Philip & Son. 1s. net.
- Philip's Contour Map of Europe. London : G. Philip & Sons, 1s. net.

Indian Educational Notes.

MADRAS.

Government Orders.

The Government accept, with thanks, the offer of M. R. Ry. C. Kunhi Kannan Avargal, Cannanore, to endow a prize tenable in the Government Girls' High School, Cannanore. The Accountant-General will be authorized to receive the sum offered and to purchase Government securities for the amount. He should furnish the Director of Public Instruction with particulars of the securities purchased and the balance in cash, if any. The applications and the draft notifications referred to in the Director's letter will be awaited.

The Government approve generally of the proposals of the Director of Public Instruction to improve the study of languages other than English, under the scheme for the award of secondary school-leaving certificates, by—(i) making Sanskrit and other classical languages and modern European languages in group C alternative with vernacular composition and translation under group A, and (ii) suffering the vernacular course under group A by setting text-books and insisting on a modicum of grammar. The Director is accordingly requested to submit detailed recommendations for altering the secondary school-leaving certificate scheme, as proposed by him.

The Government generally approve of the proposals of the Director of Public Instruction for the establishment of a Government College in the Ceded Districts. They, however, reserve for further consideration, the question whether the college is to be located at Bellary or at Anantapur. The Government also sanction the employment of the establishment proposed by the Director of Public Instruction, for a period of two years for the present, subject to the modification that the pay of the three Pandits, who should be full-time men, is fixed at Rs. 40—2—50 each per mensem, instead of at Rs. 50 each as proposed by the Director. As regards the location of the college at Bellary or at Anantapur, the Government desire to have the views of the District and Taluk Boards and the Municipal Councils in the four districts of Cuddapah, Kurnool, Bellary and Anantapur, with special reference to the observations of the Director in the matter. The local bodies are requested to treat this reference as urgent.

The Government are pleased to sanction a grant not exceeding one-half of the actual expenditure, nor Rs. 4,500 towards the cost of the site and the construction of a building for the American Arcot Mission Girls' School at Vellore, subject to the following conditions :—(1) that, in carrying out the work, the suggestions of the Chief Engineer are

adopted; and (2) that all the conditions prescribed in the Grant-in-Aid Code have been duly complied with. On the above conditions being fulfilled, the grant will be paid as funds become available.

The maximum amount of the grant sanctioned in G.O. No. 112, Educational, dated the 11th February 1913, for constructing a Hostel and Warden's quarters in connection with the Wesley College, Royapettah, will be raised from Rs. 29,000 to Rs. 33,283.

Under article 61 of the Grant-in-Aid Code, the Government are pleased to sanction a grant of Rs. 600 towards M. R. Ry. P. V. Krishnaswami Chetti's endowment for the enlightenment of Hindu women. The Accountant-General will be requested to invest the amount now sanctioned in Government securities.

Dr. Miller's Portrait.—A very pleasant function took place on the 16th instant in the old Senate Room, where had assembled a large and distinguished gathering to witness the ceremony of unveiling the Rev. Dr. Miller's portrait subscribed for by certain of his friends and admirers. H. E. Lord Pentland was in the chair, and among those present was Rao Sahib T. Ramakrishna Pillay, Secretary of the Portrait Committee, who in requesting His Excellency to unveil the portrait, said :—My Lord, we consider it a peculiar privilege to be associated with you in this the last stage of our work. Dr. Miller's connection with this University began during the Governorship of the genial Scotch Peer whose picture we see before us. The friendship between the two Scotchmen formed in Madras in 1866, continued long afterwards; and it is in keeping with that long friendship that the pictures of the two friends face each other in this room. As Fellow and as Vice-Chancellor Dr. Miller worked heart and soul for our University for forty years, and he was, to use the striking words of a Fellow, "the spinal chord" of the University. The University for his eminent services conferred on him the Degree of Doctor of Laws. We are deeply thankful to you, my Lord, for consenting to unveil the portrait, and as Chancellor to accept it on behalf of the University from the Committee.

In the course of a long speech His Excellency said: At this moment I cannot remember any district in the Presidency of those which I have visited where I have not met some old pupil and friend who has referred with pride and gratitude to the days he spent under the care and guidance of Principal Miller. In speaking of what I thus know of Dr. Miller in this Presidency, I speak of what many of you here know far better, and all of us this afternoon are a small representation of many more who will rejoice to see this honour done to him. It will be a happiness to us all if this, the latest of the many public compliments which he has received, should bring him some cheer and strength in the enforced retirement

which we all regret. His active work for Madras, his outward work, may be said to have ceased, though his letters, full, no doubt of wise counsel and encouragement, are precious to those who receive them.

His great work for India, his love for India and its people, the long unselfish years which he gave to Madras have raised up to him an imperishable monument in the hearts and minds of those who knew him, and through them his work, his influence—his soul will go marching on.

His Excellency then requested H. E. Lord Pentland to unveil the portrait, and mentioned to the meeting that Her Excellency's father and mother are old friends of Dr. Miller.

The portrait was unveiled amidst cheers, and the life size picture was seen and admired by those present as being an exact likeness of the original.

The Hon'ble Rev. G. Pittendrigh moved a vote of thanks to Their Excellencies for having taken part in the evening's function.

The Findlay College, Mannargudi.—Under an invitation issued by Messrs. C. A. Mahadeva Sastriar, N. Krishnasami Iyengar, V. K. Ramanujachariar, A. C. Narayanasami Iyer and others, a public meeting of the citizens of that town was held on the evening of the 14th inst. at the Porter Town Hall "to concert measures to send a representation to Government against the recommendation of the Senate of the Madras University to affiliate the Findlay College at Mannargudi up to the B. A. standard in certain subjects." Dewan Bahadur S. Gopalachari was voted to the chair and in explaining the purpose of the gathering he delivered a speech lasting for an hour in the course of which he praised the part Kumbakonam College had played in South India in the intellectual and the administrative departments of the State, the virtues of the sacred river Cauvery, the antecedents of the Christian Missionary institutions especially with regard to their proselytising tendencies under the cloak of spread of education, the manner and the extent to which the proposed affiliation of the Mannargudi College to the B.A. standard would affect the local Government College and the policy which Government should maintain in the matter of sanctioning new colleges. In a very elaborate discussion he drew the attention of the meeting to the absence of any need for a new First Grade College near Kumbakonam and to the desirability of strengthening the local College so as to make it more attractive.

The Hon'ble Rao Bahadur V. K. Ramanujachariar was entrusted with the Resolution and he moved it for the acceptance of the meeting. The Resolution was to the effect that the draft memorial (which was then ready) be submitted to His Excellency the Governor. The memorial purported to convey to His Excellency the deep concern of the Kumbakonam public about the Resolution of the

Madras University Senate recommending for sanction by Government the affiliation of the Wesleyan Mission College at Mannargudi to teach Branch V (History) for the B.A. Degree Examination and to point out to His Excellency that such a proposal would place the Kambakonam College under greater disadvantages. Rao Bahadur N. Krishnaswamy Iyengar seconded the motion in an eloquent speech. The original motion was put to vote with the result that it was passed by a large majority, 25 voting for and 3 against it.

Salem Teachers' Association.—At the invitation of Mr. P. Seshadri, Principal of the Salem College, the teachers of the Salem College, the London Mission High School and the Government Training School, met in the Salem College Hall recently. Mr. P. Seshadri in welcoming them referred in eloquent terms to the various advantages that an association of teachers was capable of and proposed the revival of the old Salem Teachers' Association. The proposition was unanimously carried and the meeting then proceeded to the election of office-bearers. Mr. P. Seshadri was unanimously elected the President of the Association. Messrs. S. Natesa Iyer, B.A., L.T. and K. Sundravaradachari, B.A., were elected Secretaries and the following members were elected to the Council:—Messrs. P. Sundaram, B.A., L.S. Narayana Iyer, B.A., N. Anantanarayana Sastriar, B.A., L.T., Achuta Narayana Iyengar, B.A., L.T., and V. M. Ramanadha Iyer, B.A., L.T.

Mr. P. Seshadri in winding up the proceedings wished well of the Association and promised at the start to present a number of useful books to form the nucleus of a library. Thanks are due to Mr. P. Seshadri for the interest he is evincing in the teaching profession and the hope may be expressed that the Association will thrive well under the inspiration of the Principal.

The B. A. Examination.—The Madras Government have sanctioned the following alterations in the Transitory Regulations:—

"Candidates for the B. A. Degree examination under the existing Regulations in the years 1915 and 1916 shall not be required to produce any certificates of attendance at an affiliated college, but shall be required to pay the following enhanced application fees:—English language division Rs. 18; Second language division Rs. 12; Science division Rs. 24." These alterations are intended to provide for the continuance of the B. A. Degree examination under the old bye-laws for two more years.

Kulitalai Teachers' Union.—The annual meeting of the Kulitalai Teachers' Union was held recently in the Board High School Hall, when Mr. P. Seshadri, M.A., delivered a lecture on "Teaching of English in the Sixth Form" with Mr. Herbert Champion, B.A., Inspector of Schools, in the chair.

Mr. P. Seshadri, in the course of his lecture, pointed out that there were two grave defects with regard to the teaching of English in Secondary Schools of our Presidency as they were run at present. In the first place, the Department did not seem to insist on any special qualifications for teaching English in High Schools, while strenuous efforts were being made for a very high level of efficiency with regard to Mathematics, Science, and History. Anybody who became a Licentiate in Teaching, whatever might be his attitude and however meagre his acquaintance with English literature, was considered good enough by an Inspector of Schools for teaching English text-books. Secondly, it struck him that the Headmaster considered the Sixth Form more as the highest class in his school than as a class preparing students for a collegiate course of instruction. He had to satisfy the needs of the examinations and the Inspector. If only the Headmaster bore in mind that the boys in addition to their being students of the highest class in his school had soon to enter upon a course of instruction in English in the College, and if the teachings were regulated accordingly, he thought their work would be very much easier in the college class.

In bringing the proceedings to a close, Mr. Herbert Champion said that the teacher, unlike the doctor and the lawyer, often thought that perfection in his profession was attained if he got his degree from the Teachers' College, an erroneous idea to be sure. They should improve themselves day by day, reading the latest journals and studying books relating to methods of teaching.

The Noble College, Masulipatam.—His Excellency the Governor, accompanied by Mr. J. M. Turing, Mr. C. B. Cotterell, Capt. W. S. E. Money, Capt. N. Cabusac, Mr. E. T. H. Stevenson visited the Noble College, founded by the late Rev. R. T. Noble, who came out to India as a teaching missionary in 1845 and continued to labour here till his death in 1865, caused indirectly by the great cyclone of the previous year which interfered for a time with the work of the College. His Excellency was received by the Revd. G. R. Ennis, Acting Principal, Mr. W. S. John, Professor of English, Mr. W. R. Ross Pillai, Headmaster, and Mr. Swaminadha Iyer, Assistant Inspector of Schools. His Excellency was conducted round the various classes from the First Form to the Senior B.A. Class, where the students, despite the early hour of the visit were at the daily work. The institution has 1,000 students on its rolls with another 500 students attending the three branch schools in the town. The inspection being over, the senior students and the staff assembled in the main hall, which had been tastefully decorated for the occasion with flags. His Excellency and party having taken their seats on the dais, the Rev. Mr. Ennis thanked His Excellency on behalf of the staff and students most heartily for his kind visit to their institution and devoting so much of his time to learn something of

the work carried on therein. He was also sure that His Excellency would carry with him from each and every one of them the heartiest expression of their loving sympathy, gratitude and devotion to that local Government which was now protecting them.

His Excellency said that he had only one word to say in reply, to express his good wishes to them. It had been, he said, of great interest and satisfaction to him to have had that opportunity of seeing that famous College so well known throughout the whole Presidency for the splendid work it was doing. A great work was going on in that College, a work in which the Principal, the staff, and the students were all engaged, a work the influence of which would go far beyond the limits of that College. They had behind them all the traditions of the men who had gone out of that College into active life in various parts of this Presidency. They had before them for the future everything that would stimulate their energies and raise their ideal. He felt sure from what little he had seen that it was not only a College, but a home, an intellectual meeting ground, where men of different towns had an opportunity of seeing something of the wider field of knowledge, the glimpses of life which was beyond them. He was delighted to learn everything was going on well in that College with so much energy and activity in every direction, including the physical development of boys of which they had evidence in the trophy cups placed on the table. They must not forget that after all a strong physical foundation was necessary to good work not only in their own interest, but as a duty which they owed to their country. He had seen a little of the College, and he was not prepared with any suggestions or criticisms. What they often wanted more than suggestion or criticism was encouragement and support. He was there to tell the Principal and his staff that the Government valued the excellent work which was going on there and wished to encourage it to the extent it lay in their power. When he climbed to the top of that building this morning he was reminded of the usual experience of a traveller climbing a mountain there, who, once he got to the top of one hill, saw another rising before him. The same should be the practical rule of life that once they attained to one eminence they should try to push on to the next they saw. In conclusion he congratulated the Revd. Mr. Ennis on the good work that was being done in the College. Three cheers were then given for His Excellency and the King-Emperor.

Sharkey Memorial Girls' Boarding School, Masulipatam.—His Excellency visited the Sharkey Memorial Girls' Boarding School, founded in the year 1846 by Mr. and Mrs. Sharkey, of the Church Mission Society. Though originally started and conducted for several years as a school for converts, yet, owing to the comparatively small number which made use of the High School, the Mission dropped the High School class last year

and converted the institution into an Elementary one with a training section attached to provide a steady supply of teachers for the Mission. His Excellency was received by Miss Battie, Head Mistress, and conducted over the school.

The Hindu High School, Masulipatam.—His Excellency, accompanied by the staff and the Collector and the District Superintendent of Police, visited the Hindu High School founded in 1858 by the late Sir A. Seshiah Sastry of Kumbakonam, who was then the Sheristadar in the Kistna Collector's Office. The school rose from small beginning and developed into one of the finest institutions in the district under the able headmastership of Mr. Krishnamachariar, who retired a few years ago. The school is managed by a committee of ten members and has two branch schools in the town. His Excellency was received by Mr. V. Narasimham, the Headmaster, and some members of the Committee, who took him round the various class rooms.

Inter-Collegiate Debate Competition.—A highly interesting inter-collegiate debate competition took place recently at the Y. M. C. A. Auditorium between students of the Christian College and of the Presidency College, the subject of debate being "Is compulsory elementary education a greater need for the development of India than the higher education?" Mr. Justice C. G. Spencer and the Rev. Canon Goldsmith were the Judges. A. S. Rajam, of the Christian College, opened the debate and entered a strong plea for compulsory elementary education and said that, in order to have the voice of the nation behind all beneficial, social and political reforms undertaken for the progress of India, it was essential that there should be a measure of compulsory elementary education in India. Aravamudu, of the Christian College, seconded the opener of the debate. N. S. Srinivasan, of the Presidency College, spoke in favour of the theory that higher education was a greater need of India and said that, in the matter of such questions, historical parallels were a snare of the politician and that the circumstances in India were not similar to those in western countries. Higher education would help the removal of superstition, ignorance and lethargy in the country. Sundaram, another student of the Presidency College, spoke in support of a greater diffusion of higher education and observed that political prestige and national literature were best attained by higher education. The opener of the debate replied briefly to the remarks of his opponents. The Judges took about ten minutes and compared notes, and at the end of their consultation Mr. Justice Spencer said:—We have carefully considered the result, and without expressing any opinion on the merits of the question which has been argued before us, we are of opinion

that the No's have it. The Presidency College succeeded in the debate.

Prize-distribution at Rajah's College, Pithapuram.—His Excellency presided at the annual distribution of prizes of the above College. After a brief report on the working of the institution by Rao Bahadur R. Venkataratnam Naidu, His Excellency distributed the prizes. The school is a mixed one, and among the recipients of the prizes were half a dozen young girls.

His Excellency then addressing the Principal and students said:—We have now come to the end of an important part of the proceedings, viz., the prize-giving, and I am sure there must be many here who would wish to join with me in congratulating those who were responsible for this College upon the present occasion. In the first place it is evident from the large and representative gathering which is here this evening that the College holds a high place in the sympathies of the people of Cocanada, and I am sure very rightly so. The report indicated to us that it has become quite a venerable institution, but while it is a venerable institution in the sense that it has been established for many years now, it shows all the vigour of youth because it is developing and branching out in every direction. If you cast your minds back to the reading of the report by the Principal which we heard not long ago, you will recollect from the details which he has given of the fees paid and other financial particulars of this College that this year has been a more favourable year than the past, and we all hope that it will be a characteristic of future years of history of this College. Now, the report, I thought, was particularly candid and modest—and shall I say courageous?—a very good policy to a report because it did not fail to point out any shortcomings which in the opinion of the Principal and the staff were obvious during the progress of the College last year. To face difficulties is, of course, half the way to overcome them, and I think it augurs well and should commend the College to the support of those who live in this neighbourhood to know that there is no glossing over, but that the difficulties are fairly met and weak points are shown, and that persistent efforts are being made to overcome them in the future.

I am glad also to see the remark in the College report about a hostel for the College students, and I sincerely trust that the aims of the authorities will soon be attained in regard to it. I feel certain that nothing will commend a College of the kind to parents than the knowledge that there is ample hostel accommodation for those who require it—hostel accommodation under proper supervision—so that boys who come from a distance may be well cared for and may have as nearly as possible all the guidance which otherwise they would have in their own homes. All through the Presidency effort is being made to increase hostel accommodation, which

I am sure must be a great benefit to the cause of College education.

I think, I notice the band of the Rajah in the Old Boys' Association which is an excellent thing. The idea of having an Old Boys' Association, would I am sure, commend itself to those who have the welfare of this College at heart, and if it is what it ought to be the boys who leave the College and go out into the world will look backward with gratitude to the days and years which they spent at this College. Those of us who to-day are out of school—and fortunately of a good school or College—always have that feeling, and it is a very fine thing to encourage and get up such a feeling among old boys towards their old school or old College, so that when they and those who come after them go out into the world they will feel that they are bearing with them the good name and reputation of the school or the College they belonged to, and shall never do anything unworthy of the traditions of that College or institution.

I think there is little left for me to-night but to congratulate the staff of the College, the Principal of the College, and the Rajah for the success—the continuing success—of this institution. It will not be proper if I do not commend with great heartiness to your gratitude and to your example all that the Rajah is doing for the College, and indeed his many-sided activities for the good of his fellowmen. I feel sure it is in that spirit the Principal and the staff of this College are working, and I therefore congratulate them in your name and in my own on the progress it has made and on the success of their efforts, and they have, I am sure, our best wishes for the future. To the boys I will say, I hope they will, both while they are here and when they go out into the world, feel grateful for all the benefits they have received.

Sourashtra High School, Madura.—The Sourashtra High School celebrated the Durbar Day with much enthusiasm at 4 P. M., on the 12th December 1914, with the Headmaster Mr. A. Govindaraja Mudaliar, in the chair. The staff of the Institution and a large number of students, were present on the occasion. Mr. J. Rama Iyer, B.A., B.L., Secretary of the Institution, was kind enough to supply fruits and sweets to be distributed among the students in honour of the Durbar Day. After prayer, two students of the High School Department, read speeches on Loyalty, one in English and the other in Tamil. A Gramophone entertainment followed which was much appreciated by the children. The Headmaster then delivered an impressive speech on Loyalty and the present great European War, in the course of which he made a fervent appeal to the students, especially those belonging to the wealthy Sourashtra community, to explain to their parents and guardians the necessity of their subscribing liberally to the War Fund. The proceedings were brought to a close

with the singing of the National Anthem and three lusty cheers to Their Gracious Majesties.

Wardlaw College, Bellary.—On Wednesday, the 9th instant, the members of the Dialectic Union of the Wardlaw College, Bellary, were "At Home" to the former students of the institution. To add to joy of the gathering it was the birthday of Mr. J. P. Cotelingam, the Principal of the College, and the members of the College Prayer Union presented an address of congratulation to their President. Seats were neatly arranged in the spacious compound in front of the new buildings and among the guests were Messrs. M. Gopalaswami Mudaliar, Chairman of the Municipal Council, D. Narayana Rao, the Town Sub-Magistrate, and K. Krishnamurthi Rao, who took his M. A. degree recently and won the Bobbili Gold Medal of the University. The past and present students of the College freely mingled with one another as the Principal introduced the guests to the members of the Union.

After music and refreshments the Secretary of the Prayer Union read the address and presented a nicely printed copy to the President. The address referred to several of the benefits derived by the members of the Union who attended the weekly meetings and listened to the President's summary of readings amongst others from F. B. Mayer's Biographical studies. The President's comments on the scripture passages were described to be always fresh and illuminating. Many of the members have now taken up evangelistic work and have been helped in life by the Union. The members acknowledge with gratitude the President's aid in securing the Home Mission Fund as an endowment for this Union.

In his address thanking the conveners of the social gathering and acknowledging the address of the Prayer Union, the President traced the continuous growth of the Prayer Union during the last twenty years and explained its way of working, certainly there are very few students' associations in the country with such a record of useful work behind them. He expatiated on the need for social gathering as enabling the older generation to look back with pride and pleasure on their scholastic life and the present pupils to compare themselves with their predecessors and emulate their achievements.

While giving thanks for the congratulations he had received on his birthday, Mr. Cotelingam remarked that one should take stock of the past as each anniversary came round and make efforts to be increasingly useful. In his characteristic style the speaker remarked that man is born in tears and burnt or buried in tears, and therefore birth and death we cannot avoid but we are left to put in more of pain or pleasure as the case may be in the intervening period. Pain and pleasure are inevitable in life and one's strength of character consists in the way in which one takes them.

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After the Principal wound up his speech, Mr. Gopalaswami Mudaliar spoke at length on the various virtues of Mr. Cotelingam that have earned for him a wide reputation as an educationist and that have made his institution so good and successful. The speaker incidentally spoke about the controversy connected with the location of the College sanctioned by the Government for Ceded Districts. Mr. Mudaliar paid a glowing tribute to Mr. Cotelingam for the care he has bestowed over the moral training of the student as well as their academical attainments and the speaker finished by stating that the presence of the Wardlaw Institution in Bellary was in itself a strong argument in favour of locating the proposed College in Bellary.

Madrasa-i-Islamiah, Vaniyambadi.—The annual distribution of prizes to the successful pupils of the Madrasa-i-Islamiah, Vaniyambadi, came off on Saturday the 12th instant, Mr. F. J. Richards, M.A., I.C.S., Collector of North Arcot, presided, and Mrs. Richards kindly gave away the prizes.

The Report states:—Since the Hon'ble Mr. Justice Abdur Rahim presided over our last prize distribution in October 1912, college life has been quite eventful. Our strength has increased from 280 to 415 and has been uniformly progressive, but for a temporary fall during the outbreak of plague last January. We did not disperse then as on former occasions but got ourselves inoculated and continued to work as usual. Of the 415 boys now on our rolls 74 are in the three upper forms, 32 of them being non-Mussalmans.

Arabic, Persian and Malayalam, Typewriting and Shorthand, Book-keeping and Commercial Practice have been added to the subjects under Group C taught for public examination.

Mr. Kershaw, who inspected in January 1913, reported as follows:—

"The management is making most commendable efforts in the cause of Muhammadan education and is worthy of all help and consideration. . . The inspection of the school gave me great pleasure and the enthusiasm of the management I found exuberating."

Mr. Hobday, whose inspection took place in September 1913, was of opinion that "the school fulfils a very useful function" and recommended to Government for liberal Grant-in-Aid towards our proposed extensions.

Mr. Richards in the course of his speech said:—In this institution the most salient feature, which should give the greatest cause of satisfaction, is the additional income secured during the last 2 years of about Rs. 400 a month from permanent endowments. We have a proverb "God helps those who help themselves." As regards the Madrasa-i-Islamiah, I think the policy of the Government falls in with that principle. The Muhammadans of Vaniyam-

badi instead of saying "We are poor we can afford nothing," have taken the matter into their own hands and worked their starts. They have not demanded spoon feeding. Now that they have made a start, and shown that they are in earnest, the Government has come forward freely and with very liberal hands to their assistance.

Mr. Richards concluded the function with the following words:—

"If we have the good fortune to capture the hearts of the people of Vaniyambadi, I may say with perfect sincerity on behalf of myself and Mrs. Richards that the people of Vaniyambadi have captured our hearts."

Two songs in Urdu composed for the occasion were then sung. Mr. and Mrs. Richards were garlanded and the meeting then terminated amidst loud cheers.

St. Paul's High School, Madras.—The annual distribution of prizes to the successful pupils of St. Paul's High School, S. P. G., Vepery, took place at the Museum Theatre. The Hon'ble Mr. C. G. Spencer presided, and Mrs. Spencer gave away the prizes. The function was witnessed by a large gathering consisting of parents of students, and several European ladies were also present.

The programme though long, was interesting, and comprised recitations and the enacting by the students of a dramatic interlude in English on "India then and now" composed by Mr. P. M. Pascall. Headmaster, in collaboration with Messrs. C. R. Namasivaya Mudaliar and T. P. Srinivasan. This little piece is said to have been conceived and written to interest the boys of the school in the history of their country, to stimulate their patriotic enthusiasm, and at the same time to chasten it by that discipline which a familiarity with past experience provides.

Mr. P. M. Pascall read the report of the school for the past year. The institution had 730 students at the end of the year. The Government gave a teaching grant of Rs. 5,038, and an appeal for more is pending with Government. In the Matriculation Examination the school was unlucky as all the three students that went up for it failed. In the Gericke Hostel for Christian boys there are 111 students, and arrangements are being made for building a Hindu hostel.

Mrs. Spencer then gave away the prizes.

The Chairman in concluding the proceedings, made a short speech and observed that it gave him and Mrs. Spencer very great pleasure to take part in the evening's function.

His Excellency at the Government Arts College, Rajahmundry.—His Excellency and party visited the Government Arts College, where Mr. O. J.

Couldrey, the Principal, received His Excellency and conducted him round the institution. The College possesses very many advantages, and among the second languages taught are Sanskrit and Persian. The admissions into the College have been rapidly increasing year after year, and the present strength is reported to be over 300. Attached to the College is a hostel controlled by the Principal and a committee of three lecturers, one of whom resides on the premises. His Excellency went round the various classes, the laboratory and the hostel. In reply to questions put by His Excellency it was elicited in one class that, while a few of the students were from the Training School, most, if not all of them, belong to the Godavari and Kistna districts.

The students then assembled in the open ground in front of the building, and a fourth-year class student, in welcoming His Excellency expressed their gratefulness to Government for the many benefits it has bestowed upon the College. The address then referred to the war and assured His Excellency of the heartfelt loyalty of the students to the King-Emperor and their confidence in the justice of his cause and in the final triumph. The chief want, the address concluded, was a wider playing ground.

His Excellency, in reply, expressed his pleasure in having had an opportunity of seeing the College and its students. He was heartily with them in their desire to get the play-ground extended, and he was sure that, as time went on, under the watchful foresight of the Principal and with the help of the Collector, their want in that direction, if represented to the educational authorities, would be viewed with sympathy. There was a growing desire everywhere that students should develop themselves mentally and physically so as to prove themselves worthy citizens. As regards the unhappy war, His Excellency said that, having once begun it, it was their duty to carry it on to a successful end. India was playing her part and bearing her burden nobly, and this Presidency was not behind any other province, and this district has not been behind any other district in contributing their individual share. He advised the students to uphold in their daily life and conversation the sacred cause of honour, justice and freedom.

The visit to the College terminated with three hearty cheers for His Excellency.

National High School, Trichinopoly.—The prize-distribution to the successful students of the National High School came off with Mr. Lionel Vibert, I.C.S., in the chair. Almost all the distinguished men of the town and a large number of the old students of the school were present on the occasion.

In the absence of Dewan Bahadur T. Desikachari, B.A. B.L., President of the Managing Com-

mittee of the School, Mr. Sivarama Krishna Iyer, read the annual report. Some praiseworthy features of the school are the free boarding institutions connected with it and the imparting of religious instruction. The report also referred to the resolution passed in September last by the Council to raise this High School into a College. The report also said that the inability of the existing local Colleges to fully satisfy the needs of Indian education which were daily growing, the wandering of the students—who were refused admission in these Colleges for want of accommodation—from one end of the country to the other in the uncertain chance of getting admission somewhere and the futility of mere secular education without proper grounding in religion went to show that it was a crying need for having another College. It ends with the words "It is not too much to hope that, in the fullness of time, there would be many Colleges working harmoniously in Trichinopoly forming a University of its own for the Southern Presidency, as already foreshadowed by the Hon. Mr. P. S. Sivaswamy Iyer, in his speech in St. Joseph's College, sometime back. May the Almighty crown our efforts in this all important matter is my fervent prayer."

After the reading of the report, Mrs. Vibert distributed the prizes and then the Chairman made a very interesting speech in which he congratulated the school on its progress in sports and expressed his hope that strenuous efforts would be made for raising the school into a College and that the scheme for it which was as yet only an idea in their minds would soon turn out to be a reality.

Distribution of Prizes, Pachaiyappa's High School, Conjeevaram.—The 68th anniversary and distribution of prizes of Pachaiyappa's High School, Conjeevaram, and its branches, was celebrated with much eclat on Saturday the 5th instant at 4.30 p.m., when The Hon'ble Mr. Justice C. V. Kumarasawmy Sastriar, Dewan Bahadur, presided. The entrance to the school was tastefully decorated with flags, festoons, and evergreens and the Union Jack flying gaily at the top of the front hall. There were present Mr. G. T. H. Bracken, I.C.S., Sub-Collector, Chingleput, Mrs. Maclean and Messrs. A. Ramaswami Sastriar, retired Sub-Judge, C. P. Ramaswami Ayyar, V. Masilamani Pillai, Trustees of Pachaiyappa's Charities, and many others from Madras, and Dewan Bahadur K. Jaghanadha Chettiar and several other gentlemen who performed the elite of the town. The President on arrival was received by the Headmaster, and was conducted to his seat by the two Trustees present and the Headmaster.

Punctually at 4.30 p.m., the proceedings commenced with prayers in Sanskrit, Tamil and Telugu by the pupils of the school. Then followed commendatory songs on Pachaiyappa and a few choice recitations. The twins' one of them, was much appreciated. The life of Pachaiyappa was then next briefly recited by one of the junior pupils. The Headmaster Mr. N.

Paramasiva Ayyar, B.A., then read the report for the year 1913-1914 which showed that the strength of the school was 531 and that the fee-income was about Rs. 13,652 while the cost to the management was about Rs. 19,000. He thanked Mr. C. D. S. Perumal Mudaliar, Assistant Engineer, Burma, an old pupil of the school for the award of 11 free studentships and appealed to the gentlemen present and to the past students for the institution of similar scholarships and a Poor Boys' Fund to help poor parents to secure for their capable sons the benefit of higher education who are forced to seek for help at the hands of the already overburdened manager, with a sense of deep humiliation, and injured self-respect. He thanked the Government for the liberal help given for furniture, appliances, and apparatus and for the award of Government scholarships to 6 of the pupils. At the S. S. L. C. public examination, the school acquitted itself very creditably and over 50% of the students were qualified to join the junior intermediate class. The results in the Government Technical Examinations in Book-keeping, Short-hand, Type-writing, and in Commerce, were equally good. These classes were unfortunately closed for want of funds and the Headmaster appealed for the classes being re-opened. The school requires more accommodation and the same is likely to be provided as soon as the acquisition appealed for by the Trustees is favourably viewed by Government. But for this also financial help from the public is a dire need as the resources of the Trustees are very limited. In the athletic competitions the school came off very creditably and secured Mr. Mayhew's Athletic Shield that is awarded to the school that secures the largest number of individual prizes and the Grigg Memorial Medal awarded for individual proficiency, besides 10 prizes in the Senior and Junior Competition and Badminton prizes. The Headmaster next expressed his thanks to the Senate for the recent resolution that to regulate the admissions to the junior intermediate class—a minimum percentage of marks will be specified by the Syndicate year after year on the basis of the public examination marks as well as the school marks, the latter being moderated in all cases with reference to the school average in the public Examinations. A hostel for the school, Provident Fund for the employees and provision for religious and moral instruction for some manual occupation were mentioned among the needs of the school. The Headmaster in conclusion said that great attention was being paid to cleanliness, good manners and character of the pupils and that the pupils are made to cultivate the virtues of reserve obedience and loyalty so that they may turn out true and loyal citizens.

The prizes were then distributed to the Prize-winners and the several special prizes awarded bore proof to the great popularity of the institution.

Then the President rose amidst loud cheers and spoke as follows:—

"Ladies and Gentlemen, and students of the school:—I cannot but begin by expressing my

thanks to the Trustees of the School and to the Headmaster for having given me an opportunity to preside on this occasion. It gives me great pleasure to distribute the prizes to the school-boys. It is now 30 years since I was a student of the Pachaiyappa's College and attended a prize distribution in the capacity of a prize winner and I cannot tell you how glad I am to attend a similar function in the capacity of a prize giver. The report which has just been read to you shows what steady advancement is being made in the progress of the institution. It is a record of good work done by students and of good and hard work done by the masters with the co-operation of the Trustees of the school and our grateful thanks are due to them for having rendered such good work through the year in review. It is difficult for the public to appreciate what hard work is thrown upon the masters who throughout the year have to impart knowledge to the students under great difficulties and a slack help from the public. Yet the work has been well and steadily done and having regard to the poor pay that teachers get in this country, it is a work that deserves our best gratitude.

As to you the students of the school who have received prizes I convey to you my congratulations and I hope that your future career will be marked by similar successes and achievements. For those who are not recipients of prizes, I hope that the sight you have witnessed to-day would rouse in you an emulation that would gradually work to your getting prizes in your turn and I wish you all a most healthy and prosperous school life.

Students of the school:—It is to you primarily that I want to say a few words for the reason that great hopes are naturally built upon the younger generation who have, in course of time, to take the place of your elders and bear your part in the advancement of your country. It is therefore natural that your elders centre their hopes in you. Follow their advice that you might always be a pride to your country-men and that in your dealings you may never forget the loyalty that you owe to your Emperor and the debt that you owe to the country. Never forget that you ought first of all to be loyal both to your God and to your King-Emperor. Those are the cardinal virtues on which all successes in life are to be built and all hopes and aspirations of our elders to be achieved. Never forget that to the British Empire and to your rulers you owe a debt of gratitude which cannot possibly be repaid except by a life devoted to the inculcation of a spirit of loyalty. It often pains me to hear that the younger generation are not quite loyal at least in their talk. Nobody who has compared the present with what has been in the past could for a moment believe that our connection with the Great Empire is not one that has been brought about by a happy circumstance and is fraught with absolute good. I was reading the other day a speech of one of our great countrymen Mr. Ranade and he is of opinion that it is one of the blessings of Providence that brought us under

the British Empire, comparing the good that they have been doing and the real welfare that they have at heart for our country. I hope that I shall not in future hear that the younger generation have either by word or deed shown that they are wanting in their sense of gratitude and affection for so much good done by our rulers.

Again students of the school:—I would advise you always to be studious not as a means to an end, not merely to get a livelihood but to devote all your spare time to the cultivation of knowledge and for the cultivation of the literature of your country. This brings me to the steady complaint of the neglect of vernaculars by the younger generation. Unfortunately the fault is not theirs, because the curriculum of studies now advocated is not in my opinion helpful for the development of the vernaculars. It throws into the back-ground the great and glorious literature of our country and does not sufficiently help all your attempts to foster a knowledge of that great and glorious literature. I would advise you even after your career in college is completed to devote your spare time to the literature which is one of the greatest and the best in the world. Those who have devoted their attention to our vernaculars cannot but be struck with its importance as a factor not only of progress but of weaning you from certain influences which are not quite compatible with the genius of our nation. It will give a better outlook upon the past and a better appreciation of the present, because it will present us its true light of those theories which are not quite compatible with your growth as an oriental nation. You can never throw off the past in your efforts to improve the future and you will always continue to be Indians and not merely ape western manners. I would therefore advise you to bear in mind the great past you have had, the great and glorious present and always live with a clear vision of the glorious future which awaits, which you are sure to share under the protection of the British Empire. So regulate your lives and so cultivate your knowledge that you will always be useful to your country.

I am sorry to see that the Commercial department has been closed owing to want of funds. Want of funds is almost a chronic complaint in every effort of our people to improve themselves. Wherever we turn, it is the same. Anyhow, this want should not stand in the way of a most important branch being encouraged. Those who have read the reports of the Educational Conference will be struck with the anxious desire of most of our countrymen to take part in the industrious revival and to remove the factors that have for some years blighted the growth of industries which were once prosperous. It is not possible to make any headway unless you take a commercial view of things i.e., a view which will not land you in bogus schemes but which will give you some profits and which will allow you to attain success. For this, a training is necessary. The many commercial failures which have taken place now were due not to

lack of enthusiasm but to lack of training. It has landed you into schemes which were not carried out, and the misfortune has been that the line of progress has been thrown back and has produced an unhealthy pessimism. It is therefore absolutely necessary that we should in schools and colleges have departments where persons who are inclined to such pursuits should be given an opportunity for the healthy development of their commercial instincts, and to make improvements regulated by modern progress. I would therefore earnestly appeal not to allow this branch to be closed, because the report says that there are students who are willing to avail themselves of these opportunities.

The next branch which I am glad to see improving in this school is Gymnastics. I would, in this respect, impress upon the students that they should take part in manly games and thus give a healthy stimulus to their character. It is a trite saying that the battle of Waterloo was won in the fields of Eton, you cannot expect to take a healthy view of life if you have a diseased body. It is therefore necessary that more attention should be paid towards the physical improvement of the students. In this respect, there is considerable improvement since I was at school for we had no play-ground then.

The other portion of the report which gives considerable satisfaction is the use made of the Library. Here again, the students of the school take a view which is more extensive than the school curricula. Students want to improve their knowledge on lines which will give them a sound and liberal education and in this branch, I hope the teachers would stock the library with books which will give them a sane and healthy view of life and will improve their intellectual horizon.

One other pleasing feature has been the recognition by the Trustees and the Headmaster of this school of the liberal grants received from Government, and I am glad to note that the recent policy of the Government as regards education has been one of great sympathy and liberality; and under the guidance of so able a statesman as our Governor, H. E. Lord Pentland, the educational system of our country would surely receive gradual financial help that will be necessary for its development.

Gentlemen, I do not think I should keep you much longer as it is already very late. Once again, I thank you all for giving me an opportunity of presiding here, and once again, I wish the students of this school a prosperous career in life.

Mr. V. Masilamani Pillai, B.A., B.L., High Court Vakil and one of the Trustees, next thanked the President in the following terms: "Mr. Chairman and Gentlemen, I now rise to perform the very pleasing function entrusted to me by the Headmaster of offering our sincere thanks to the President on behalf of the Trustees, Headmaster and teachers and pupils of this school. Mr. Justice C. V. Kumaraswami Sastriar's grand-father Ranganatha Sastriar

was a Trustee for several years. He was himself a pupil of the Pachaiyappa's College 30 years ago, and for sometime a Trustee. He thus belongs to a family that has hereditary relationship with Pachaiyappa's Institutions and it is therefore most fitting that he should have occupied the chair this evening. In the midst of heavy and onerous work as a Judge and in such inclement weather that he should have come all the way from Madras to preside at this interesting function shows his warm attachment to the cause of Hindu education and in particular to the institutions connected with the revered name of Pachaiyappa. He thus richly deserves our warmest thanks and I request you all, gentlemen, to carry with acclamation the vote of thanks to Mr. Justice C. V. Kumaraswami Sastriar."

The Headmaster then thanked all the gentlemen present and in particular Messrs. C. P. Ramawmi Ayyar and V. Masilamani Pillai, for having specially come from Madras, to attend the anniversary.

The same night the senior pupils of the school enacted 'The Tempest' with considerable success from 9 to 11 p.m. Prospero, Antonio and Ariel acted these parts very well and Mr. Justice C. V. Kumaraswami Sastriar who witnessed it throughout spoke in highly eulogistic terms of their powers of acting. Mr. V. Venkatachariar, Pleader, who was largely responsible for the success of the play was warmly thanked by the Headmaster. The first scene—The ship scene—was a great success and the ship exhibited was a very good specimen of artistic work, in appreciation of which the artist was presented with a medal by Mr. V. Venkatachariar. The scenic arrangements and the stage decorations were of a high order and exceedingly tasteful.

CALCUTTA.

The late Prof Cunningham.—The following is a portion of the speech delivered by the Hon'ble Dr. Daya Prasad Sarvadhikari at the function held in honour of the memory of the late Professor Cunningham.

Principal James and Gentlemen:—I am very thankful for the high honour you have conferred upon me by asking me to take part on this melancholy occasion. It is, however, an occasion that is not without its stimulating and elevating effect, and I sincerely trust that such effect will fully ensue. We have come together to honour Prof. Cunningham's memory which is not so much of an honour to him as to us; in no less degree is it a profit also. Professor Cunningham, whose tragically sudden and unexpected death was universally mourned, was intensely respected as a Professor and as a man. And how dearly he was loved by those who enjoyed the inestimable privilege of his friendship or intimate acquaintance must be fresh in the minds of many of you. He was an educationist in no narrow and restricted sense of the term, but it was ever his determined and deliberate effort

to broaden the basis of education, to widen its sphere and enlarge the outlook altogether. His objective was not merely to make his students adopt in chemistry but also to make them, if possible, past masters in that beautiful alchemy little in vogue now-a-days alas amidst atmosphere of culture that truly enables and sanctifies life and makes a man of a learner and not a mere speculating machine. Intense earnestness and singleness of purpose almost regardless of consequences was the key-note of his life. One of the devoted band of educational workers that succeeded in inspiring and encouraging others he fearlessly took his ideas outside the college walls into the larger world that must necessarily shape College and University thoughts and ideals. If he had not uniformly succeeded he laid sure foundation for the success of future workers as must be gratefully acknowledged by all engaged in the same line of work. As an active member of the Senate, as an indefatigable adviser of Colleges, in fact, as one of the pioneer Inspectors he helped in raising the standard of scientific teaching in our colleges without unduly taxing their slender resources. The debt of gratitude of our educational world to him was therefore heavy and hard to repay. Added to these, his genuine warm unconventional and unalterable sympathy for Bengal and Bengalis, for Bengali students, men and institutions constitutes an immensity of claims to our gratitude that I am ill able to express. He freely mingled with student life in all its phases and there was no more estimable and loveable a colleague. It was a real wrench to his friends, here when his questionable promotion from his Chair of Chemistry to the unfamiliar Inspectorate took him away from our midst, but we all expectantly looked forward to his early return to his larger sphere of usefulness. That however, alas! was not to be and he fell a ready prey to his martyr-like zeal. With characteristic earnestness and thoroughness he threw himself into his new work in the Chota Nagpur wilds. The most distant and inaccessible of outlying jungle schools was a matter of as keen an interest to him as the best equipped of model schools destined to wipe off the Presidency College. From one of these terrific journeys he returned, made himself ill and passed away with agonising quickness that overpowered us all. I have painful recollection of the telegram announcing his death coming at the Presidency College, Governing Body meeting in Mr. Kuchler's room at the Secretariat almost about the same moment when we were considering as to when we could have him back to the College that was expectantly awaiting his return. It was however, otherwise writ, and we were left to mourn his loss. Verily the good whom the Gods love die early.

BOMBAY.

Bombay Educational Expenditure.—The following Press Note was issued sometime ago by the Government of Bombay:—

In March last the Government of India intimated

that a new recurring grant of Rs. 1 lakh had been made to the Bombay Presidency for the improvement of education. The Government of Bombay were authorized to disburse this sum at their discretion, and have already allotted Rs. 20,000 to the promotion of secondary education among Mahomedans in Sind by a system of scholarships tenable at Madrasahs or recognized Anglo-Vernacular schools having hostels attached to them. A sum of Rs. 5,000 has also been ear-marked for meeting a portion of the recurring cost of introducing the Sloyd system of manual training. Another sum of Rs. 5,000 has been kept in reserve for meeting any urgent needs that may come to light during the course of the year. The remaining Rs. 70,000 have been allotted to two of the most pressing requirements of primary education, namely, the improvement of the pay of trained teachers, and the provision of additional teachers in understaffed schools. A sum of Rs. 1 lakh recurring is provided for the same two purposes in the current year's budget from provincial revenues. Accordingly Rs. 50,000 from both the Imperial and the Provincial grants, or Rs. 1 lakh in all have been allotted for giving to trained teachers, pay according to the face-value of their certificates and promotion according to the Code, while the remaining Rs. 20,000 of the Imperial and Rs. 50,000 of the Provincial grant, that is, Rs. 70,000 in all, are to be utilized in providing additional teachers in understaffed schools. It must, of course, be understood that all the sums mentioned above are annual recurring grants.

Hitherto grants for improving the pay of trained teachers have been distributed to District Local Boards only, and it has been suggested that Municipalities should now be allowed to participate in them. After careful consideration of the proposal, Government have arrived at the conclusion that it is necessary to uphold wherever possible, the principle that a local body should bear at least half of the gross expenditure on primary education within its area. It is true that this principle has been relaxed in the case of the Local Boards, but this was from sheer necessity, those bodies having an inelastic revenue wherewith to meet a rapidly expanding expenditure. In the case of Municipalities in the great majority of which these financial conditions do not exist, Government, in November 1912, raised its educational grants to the full half of the then existing gross Municipal expenditure, on primary education. It is probable that there are numerous instances where, owing to the subsequent growth of such expenditure the grants so fixed now fall below that proportion. Government are therefore ready to allow part of the new allotment to be granted to Municipalities, but on the usual condition that the total grant to any Municipality on account of primary education shall not exceed the maximum limit of one-half of its gross expenditure on that object. The result is that a Municipality whose expenditure still only equals the Government grant will have to pay one-

half of any new expenditure it incurs on improving the pay of its teachers while those Municipalities which have already increased their expenditure will pay less than one-half of any fresh expenditure of the same nature. The Governor-in-Council trusts that this concession will serve as an inducement to Municipalities to devote funds to improving the pay of their educational staffs.

Mahomedan Education in Sind.—The Government of Bombay has issued the following Press note:—

In a pamphlet entitled Mahomedan Education Recent Developments in the Bombay Presidency, published in March last, reference was made to a proposal for encouraging secondary education among the Mahomedans of Sind by the institution of a large number of scholarships. The whole question has since been investigated, and a comprehensive scheme formulated, under the provisions of which 133 scholarships will eventually be awarded annually at a cost of Rs. 20,000. Each scholarship will run for four years, so that when the scheme is in full working order, there will be 532 scholarships to be enjoyed at an annual cost of Rs. 80,000. The scheme further contemplates large non-recurring grants for the extension and improvement of existing Madrasahs, hostels and similar buildings.

Government have concurred in the opinion expressed by the Commissioner in Sind, which is endorsed by the Director of Public Instruction, that the most effective and economical way of promoting secondary education in Sind is by a system of scholarships tenable at existing Madrasahs or at recognised Anglo-Vernacular schools with hostels attached to them, and not by the creation of a num-

ber of new secondary schools specially intended for Mahomedans. The scheme submitted by the Commissioner in Sind has therefore received the general approval of Government, but funds are not available to carry it out forthwith in its entirety. A recurring grant of Rs. 20,000 has, however, been allotted, with effect from the current year, for the initiation of the scheme, and the balance of the expenditure will be provided gradually as funds permit. Detailed proposals for the utilization of this allotment have already been called for.

Bombay Urdu Text-Book Committee.—A Bombay Government Press note says:—In addition to the Provincial Text-Book Committee which advises on questions relating to the use of books in Secondary Schools, there are four Vernacular Book Committees which deal with the sanctioning of works in Marathi, Gujrati, Canarese and Sindhi respectively, for use as text-books, library books or prize books in Primary Schools. No such Committee has hitherto been appointed for Urdu in view of the small number of books annually produced in that language, and the practice has been to refer such books to the Mahomedan members of the Provincial and Vernacular Text-book Committees after obtaining a preliminary report by one of the Special Mahomedan Deputy Educational Inspectors for Urdu Schools. As Urdu has now been practically recognised as a fifth vernacular for the purpose of primary education in this Presidency and as the number of Urdu books to be examined is likely to increase considerably it is considered desirable that more permanent arrangements should be made for the scrutiny of books in that language. His Excellency the Governor in Council has accordingly decided that a separate Committee should be constituted for the examination of Urdu books.

The Educational Review.

In the first article on this subject reprinted in our last number, *The London Times* on "Young India," the *Times* gave us an extremely well-informed criticism on the defects of our Universities and exposed the hollowness of recent pretensions, grandiose but ineffective, to develop University as opposed to College work. The so-called University Lectures, which in the opinion of our Syndicates were, as by a magic wand, to turn our Universities into Teaching Universities, were mercilessly ridiculed by the *Times* as "essentially a piece of window-dressing, a tying of bought grapes to the branches of unfruitful thorns." In the next article (which appears in this issue) the *Times* attempts at constructive criticism, but here we fear the perspicacity of the writer seems to desert him. His first remedy is that "the majority of the existing 75 colleges ought to cease to rank as full University institutions," because "a true University education can only be received in a real centre of living learning." If the writer of the article had been an Indian patriot and not merely an interested outsider, he could have seen the suicidal nature of the remedy that he proposes and recognized that the "true" solution of the problem would be to regard each existing college as the nucleus of a University and instead of helping it to die, the State ought to aim at developing each college, gradually it may be, into a University, which can live on its own merits and will do some distinctive work of its own. At present the colleges of India, being controlled by examining Universities, all do the same work, that of preparing pupils for the same examination. There is not even a faint shadow of indi-

viduality in any college but the same soul-killing monotony. There is no heed paid to local conditions, there is no attempt at division of work according to the needs or possibilities of the locality, there is no decentralization. This is so not only with reference to the colleges; the Universities of India are also all of a type, brothers of the same brood. This persistent devotion to one type, and that antiquated, of University work is the canker at the root of education in India. We want our ideal of the University to be revised. We want various types of Universities—many devoted to scientific and technological studies—the sciences cultivated depending on the locality where the work is carried on, some to commerce-study, and a few to the study of letters. A division of work on some such lines will enable the Universities of India to be multiplied so as to meet the real needs of the land. The ideal of Universities that we have pleaded for can scarcely command the sympathy of the Fellows of Indian Universities who understand only one form of University—the one that prescribes syllabuses and sets examination papers. Even the writer in the *Times* with his higher ideals of University work is oppressed by the notion that a University ought to be a universal provider. He says that the colleges of Delhi, Agra and Orissa (by which last we think, he means Cuttack) are "strong colleges doing good work but not strong enough to be the basis of a University." But why cannot a University specialize in that kind of work which it is "strong enough" to do? Why should it include a long list of items in its programme? Why cannot mofussil colleges each become a small University and do just that kind of University work that it can well do?

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EDITORIALS.

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To make our meaning clearer, we must University and discuss our ideal of the College. functions of a University and of a college. It is the proper business of a University to enlarge the boundaries of knowledge. This may be either in the quest of abstract truth, the attempt to win the endless secrets which nature still keeps concealed in her bosom or the application of knowledge to the problems of the life of the people in various local surroundings. It is the legitimate work of a University both to discover a new chemical element and to invent new methods by which scientific knowledge can be utilized to further the industrial, social, economic and political interests of the people. A college would on the other hand merely aim at the widespread of the knowledge which is the result of research at the Universities. It is the proper work of a college to teach the knowledge already acquired by the higher workers and organized and made ready for use; it is also the proper function of a college to assess the results of its work and to judge how much each pupil has profited by his connection with the college. A college would thus teach and examine, and the University would do research work and lead the van of scientific discovery. It is only when people realize these ideals and try to get them translated into fact that there will be any chance for India to share in modern civilization and for her people to rise above the primitive—not even mediæval—stage of civilization that they now live in, gazing contented on achievements of two thousand years ago and ignorant how far the horizon of knowledge has been widened since.

The fact that pedantry which alone is dispensed in our colleges is Education and the Industrial Conference. responsible for the primitive industrial condition of India was well brought out at the Indian Industrial Conference. Rao Bahadur Theagaroya Chettiar pointed that among the causes responsible for the failure of various industries recently started in Southern India, one was our "unsound system of education." The present system created an aversion in the youth to a career of industrialism and forced them to enter service or join the Bar." We have not seen a more pithy statement than this. Young men that have gone through the Indian Universities are unfit for any other than the "learned" professions, for our Universities are but manufactories of pedantry, being copies of mediæval halls of book-learning. The education imparted in our schools and colleges is deliberately doctrinaire, being as little in touch as possible with the actual (or prospective) life of the pupils or of the people of the land. That this is the chief cause of the lack of industrial activity of our people was also brought out by the Hon. Mr. Manmohandas Ramji, in his sweetly reasonable Presidential Address. He said: "Want of scientific education is what we are suffering from to a large extent and this could be set right principally by the Government." As a commentary on this statement, let us remark in passing that the beauties of Beowulf loom much larger in the horizon of our colleges than the possibilities of pitchblende, the trade of old Venice than the economics of modern India. Speaking of the chance of commercial and industrial development afforded by the war, he said: "A large portion, if not the whole of the trade can be captured if our people acquire the necessary

scientific training, experience and above all a thoroughness of working. I appeal to our young men to devote themselves more and more to science, trade and industries and to take up their work in no light-hearted spirit, but to apply themselves heart and soul to their respective line of work, giving their best to it, and thus help forward the cause of commercial and industrial progress. It is only thus that some of the greatest industries of the West are built up and not by waiting for Government help and struggling for petty clerical services." It may be objected to the series, "science, trade and industries" that in England industries developed in the XVIII century in a haphazard manner and not fostered by Government help or University teaching. The necessity for active Government help in the development of industries was explained, conclusively though temperately, in the welcome address of Mr. Theagaroya Chettiar and the function of the Universities in industrial evolution is well-known to every one who has studied the history of German industries in the XIX century. Mr. Ramji, therefore, rightly advocates "the establishment of Industrial Fellowships at various Universities for investigation into specific problems of industrial advancement. Such Fellowships have been established in American as well as English Universities in connection with Faculties of Technology, but since we have no such Faculty in any of the Universities, such Fellowships should be founded in the Faculty of Science. Such Fellowships should be for the solution and investigation of actual problems of manufactures of such Indian products as cannot come up to foreign articles in point of quality or cheapness. Subjects for such scholarships may be invited from actual

manufacturers who may be asked to bear the investigation charges." Would it surprise Mr. Ramji if we should inform him that the Madras University does not possess a Faculty of Science, that when that University was reconstituted as a result of the Indian Universities Act of 1904, and new Regulations were passed at the instance and under the guidance of two great Madras scientists and heads of the Department of Instruction in their own provinces, they deliberately set their face against the institution of a Faculty of Science and that hence in Madras colleges more than half the time of the pupils is devoted to language teaching and practically one-third to science and it has been recently proposed to further decrease this poor one-third? Before the Indian Universities were started, education in India was devoted to the manufacture of Sanskrit Pandits; now what is called English education is devoted to the production of English Pandits. How can trade and industries flourish in an atmosphere so redolent of letters and from which science is outcast?

Mr. Ramji's picture of the puzzled manufacturer consulting an Indian University Professor with regard to problems of his trade is distinctly interesting. We can imagine the incensed Professor replying: "My business is to lecture and to examine pupils and award marks, and not to help a trader" and, if one eccentric Professor be found willing to ask his pupils to attempt to solve the problem of the manufacturer, the pupil is sure to reply: "Sir, this won't help me to pass my examination and to rapidly go on to the B. L. degree, so that I may rise to the High Court Bench." What little science is taught in Indian colleges is but scientific pedantry, scientific learning

crammed for purposes of passing examination. Is there any wonder that India has not yet got even an adumbration of the "full and free development and expansion in her national and international trade" which the Hon. Mr. Manamohandas Ramji and all other ardent Indian patriots desire? If India is to become one "of the best props and pillars of the Empire," our educational organization will have to be entirely recast so that the gerund-grinding of our colleges will be replaced by real education, the imparting of real knowledge and the training in the work of the hand.

As the chief speakers at the Industrial Education at Conference found the root of industrial backwardness to be educational inefficiency and the remedy to be the thorough recasting of education on modern lines, so the distinguished President of the National Social Conference argued that the key to social reorganization was the improvement of education. In his remarkably well-knit Presidential Address he constantly referred to education as a potent factor in national growth, in the shedding of superstition and the spread of right views and right conduct. The first "particular measure" he discussed as "the most pressing" means of the "advancement of society" was "universal education," which is "the base of all other reforms," being "at the very bottom of and leading to all other reforms." Education alone will lead to the restoration of human rights to the depressed classes for "as education spreads, these depressed millions will demand local recognition with no uncertain voice and such recognition must eventually come." H. H. the Yuvaraja of Mysore

awarded ample praise to the State and the people for what has been already done in the field of education. "In the matter of universal education the State has done a great deal and popular attitude has happily in this respect kept almost equal pace with the efforts of the State." Here we wish to point out that it is education of the right sort that subserves national progress. There has been recently very much in evidence the "educated reactionary," such as those who plead eloquently for the perpetuation of patent evils like child-marriage and call it Hinduism, nationalism and what not. There are those that pass through the Universities and emerge with a good knowledge of the English language but without their souls being touched with the fire of modernism, without developing the capacity to respond to the noble sentiment rendered by H. H. the Yuvaraja.

"Caste is but the guinea stamp,
A man's a man, for a', that."

A man is not cultured merely because he has a smattering of English. The value of English culture lies in enabling one to rise above the limitations of the Pandit cast of mind. The Pandit possesses many and glorious virtues but his besetting vice is his ready acquiescence in the authority of custom, the more ready the more irrational and the more ancient the custom. He cannot stand on his legs and challenge and critically examine the validity of tradition. Hence we cannot agree with the Yuvaraja when he thinks that the introduction into the curriculum of Sanskrit Colleges "education up to the standard of Matriculation" will broaden the minds of Pandits and "make them liberal in their thoughts." It is real western culture, the

ideal of the equality and fraternity of all human beings which is at the root of modern democracy and not a knowledge of English up to the standard of Matriculation that will save India from the evil customs that throttle the life of the people.

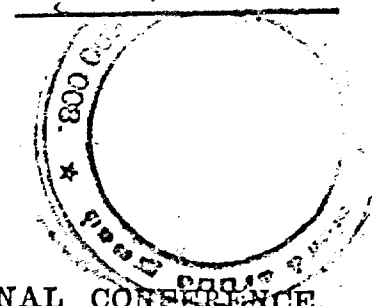
The Honourable Mr. Bhupendra Nath Basu in his eloquent speech* as the President of the Twentieth Session of the Indian National Congress, considering the question of "What lies in us to do for the realization of our destined future," rightly regarded education as the root of all progress. He said, "Our ground-work must be the education of our people, the elevation of the masses.....The Congress may well take a leaf out of the programme of the Muslim League in matters connected with education, for education is the bed-rock on which we must lay the foundation of our national life." Indeed, our Muhammadan compatriots have shewn great wisdom in concentrating on the

spread in their community of education on modern lines, with the feeling that once education spreads, all other reforms are bound to follow of their own accord. The President of the National Congress, in our opinion, very properly regards education as the only means for the uplifting of India. "To it alone, I look for the removal of those galling distinctions resulting from the institution of caste, of those petty misunderstandings which mar the beauty and serenity of our religious life." And let us add, with the widespread of true education, the distinctions of Imperial Service and Provincial Service that all Indians protest against are bound to vanish, the people of the land will take their rightful place in the administration of the affairs of their mother-land, industrial and commercial life will grow, the evils of society will disappear and we may "stand united" before the sanctuary of the mother "with our feet on the past and our gaze on the future."

* THE CONGRESS PRESIDENT ON EDUCATION.

Our ground-work must be the education of our people, the elevation of the masses. To our infinite regret, the State has not responded to our call for even a tentative measure of compulsory primary education: much as I grieve, I am not hopeless, for it is bound to come. It was not till 1880 that England recognised that no children should be shut out from the benefits of education by the ignorance, neglect or apathy of their parents. Our policy has been to follow the lead of England at a respectful distance. The education of our girls is still in an elementary stage. The Congress may well take a leaf out of the programme of the Muslim League in matters connected with education, for education is the bed-rock on which we must lay the foundations of our national life. To it alone, I look for the removal of those galling distinctions resulting from the institution of caste, of those petty misunderstandings which mar the beauty and serenity of our religious life. What does it matter if I spring from the head of the Creator or his feet? Is not the whole universe His foot-stool? And what does formula matter in religion, God reveals himself to all who seek him. Whether we

hearken to the voice of the Muezzin or to the pealing of the bells, whether the minaret or the trident attracts our gaze, whether we assemble in our temples or our mosques, whether we are high or lowly born, it makes no difference: outside these, beyond these, is the sanctuary of the Mother, where the voice of humanity is calling us to worship. There we stand united before her sacred altar with our feet on the past and our gaze on the future. It only we bear in mind that we are Indians first and Indians always, what does it matter whether one community advances more rapidly than another, whether one receives more favours than another? Let us bear in mind that the advancement of a part of the body-politic means the progress of the whole, that favours to our brethren mean favours to us all: it is the pettiest of petty things that come between us, though these small things, like the grain of sand in the eye, oftentimes cause great irritation: let us brush them aside. Enlightened opinion, Hindu and Moslem, is recognizing the essential unity of our lives and striving to put down differences where they exist; these differences are capable of easy adjustment if only we bear and forbear,



THE ALL-INDIA MOHAMEDAN EDUCATIONAL CONFERENCE.

PRESIDENTIAL ADDRESS.*

GENTLEMEN,

In the Christmas week of 1894, this day nineteen years ago, I had the honour to preside at the ninth Session of this Conference, which was held in the Strachey Hall of the M. A. O. College, Aligarh. I remember as if it were but yesterday that on that occasion there were gathered together around me some of the best representatives of Muslim culture—amongst others, Sir Syed Ahmed Khan, the great founder of the Aligarh College; his distinguished son, Mr. Syed Mahmood; that polished courtier and able administrator of Hyderabad, Nawab Muhsin-ul-Mulk, on whose shoulders fell afterwards the mantle of the immortal Syed; that profound scholar, enlightened theologian and impressive orator, Maulana Nazir Ahmed; and that versatile and voluminous writer of Delhi, Maulvi Zakauddin. One after another they have all passed away, leaving behind them a record of work which will ever be cherished by the Indian Musalmans as their most precious inheritance. They were the pioneers of the modern educational movement in Mohamedan India, and to occupy the presidential chair in an assembly containing such illustrious men was a distinction of which any one might well have felt proud. After nineteen years, the united voice of the community has called me again to that high office, and in obedience to your flattering summons I am here before you to-day. The work that devolves upon the President of this Conference is as difficult as it is responsible; and I greatly appreciate the honour you have done me in selecting me for its performance.

ance. I very much wish that you had entrusted this task to more capable hands; but as you have honoured me with your confidence, I shall do my very best to deserve the honour; and I am sure that in the work that lies before me I can count upon your whole-hearted co-operation and support.

LOOKING BACKWARD: 1894—1913.

Looking back upon the period which has elapsed since I last presided over your deliberations, I notice with feelings of sincere gratification that much progress has been made by Mohamedans in education, and that almost everywhere they have overcome their old prejudice against Western methods of instruction and have begun to show considerable educational enterprise. The period has been, on the whole, one of steady advance from the position they formerly occupied, and they have developed a degree of self-consciousness and a sense of solidarity which are essential to Muslim regeneration. If at times they have, in some parts of the country, made mistakes in their conception of education and in carrying it into execution, or have chafed under the whole-some restraints imposed by prudence and foresight, they have tried afterwards to rectify those mistakes and have appreciated and pursued a saner policy.

THE ALIGARH COLLEGE.

The Aligarh College, which embodies the educational ideals of its great founder and which may be called our most improved experimental farm in the field of education, has had a chequered history. At one time it seemed as if it would

* Delivered by Mr. Justice M. Shah Din at the Twenty-seventh Session of The All-India Mohamedan Educational Conference held at Agra on the 26th, 27th and 28th December 1913.

become the storm-centre of the mutual jealousies of the older generation and of the immoderate demands of its youthful population, but wiser counsels prevailed at last and more than one crisis passed away. Our College at Aligarh is, and must ever remain, the central national institution of the Indian Musalmans, and in view of its great traditions and of the immense influence which it has always exercised over all the most active movements which have arisen in our community, its general condition furnishes perhaps the best index of our moral and intellectual progress throughout the country. The power of Aligarh is great, but its responsibilities are greater; and I would, therefore, remind its governing body and students that they will be guilty of betraying a great trust if they depart from the policy and the principles laid down by Sir Syed Ahmed Khan for the guidance of both. Aligarh was intended to turn out the best type of educated Mohamedan—a young man who would possess great intellectual ability and high character, and would combine the pleasing courtesy and polished manners of the East with the ennobling self-respect and sturdy independence of the West—a thoughtful Indian who would conduct himself in private and public life with dignity, self-restraint and an ever-present sense of responsibility, and whose ambition would be to become a useful member of society and a loyal and helpful citizen of the British Empire. These were the ideals placed before the Indian Musalmans by the great Sir Syed; and their realisation must ever be the aim and object, not merely of the Aligarh College, but of all Muslim educational institutions. It is a hopeful sign of the times that in educational matters the policy laid down by Sir Syed still holds the field; and although at times the still small voice of the enlightened conscience of the community may be unheard in the din of warring interests, I earnestly trust that it will ultimately be listened to with due respect, and that the forward movement of the College

will receive fresh impetus from the loyal co-operation of the more thoughtful section of the younger generation.

THE MUSLIM UNIVERSITY.

Gentlemen, one of the most pleasing results of the spread of the Aligarh movement in India was the organised effort recently made by our community to collect funds for the establishment of a Muslim University at Aligarh. The wave of enthusiasm which passed over all classes of Musalmans throughout the length and breadth of the land and the striking success achieved by the promoters of the University idea under the brilliant leadership of His Highness the Agha Khan are significant proof of the great awakening which has taken place among our people; and this is mainly due to the gradual infiltration of liberal ideas first promulgated at Aligarh. These ideas, and the principles underlying them, must be diligently spread among Musalmans and applied to the new order of things which is coming into existence; and you may then be sure that in the domain of education, as also in other fields of activity, our community will come to occupy a position worthy of its traditions and of its numerical strength in the country. With you education is the supreme need of the hour, for remember that upon the extent to which your community will be educated on modern lines will depend your progress, relatively to the other communities, in all the more important walks of life. A disregard of this truth will assuredly endanger your position in this country.

The Muslim University question has been discussed for the past three years in many of its bearings in all parts of the country; and having regard to the fact that it is under the consideration of certain representative Committees duly empowered to deal with it, I do not feel called upon to say anything special about it on the present occasion. I may, however, be permitted to remark that, after having shown unusually keen interest in it the community seems to have

relapsed into something like indifference towards it. I know that this is chiefly due to the fact that momentous events of a most serious character have happened in the Muslim world which have engrossed the attention of the Indian Mohamedans and have placed their scanty resources under a severe strain. But now that the clouds have rolled away and we are in sight of clearer skies, I earnestly beseech you to turn your attention once more to the University question which has become for us a question of sovereign importance. And in this connection may I venture upon a word of advice? It is essential to the right solution of this question that your leading men should bring to bear upon it their best qualities of head and heart, and it is equally necessary that the rank and file of the community should follow their lead in this matter with confiding loyalty. I very much doubt whether our leaders fully realise the nature and extent of the responsibilities which rest upon their shoulders; they have launched upon an experiment of enormous difficulty with probable consequences of a far-reaching character; and at times it seems as if they were driving the chariot of the Sun with hands unequal to the task. This is borne out by the discussions which have taken place over the University question both in the Muslim press and at the meetings of the Committees that are charged with its detailed consideration, and thoughtful men have often shaken their heads over the results thus far achieved. The grave defect in the general attitude of the Mohamedans towards this question is that almost every one who has subscribed, or even promised to subscribe, to the University funds claims the right to give his opinion as to the constitution of the proposed University and the future management of its affairs without stopping to consider whether he has the necessary capacity to form a right opinion about these matters. People who do not know even the rudiments of the educational problem in India have rushed into print

and have expressed opinions on the Muslim University scheme which have staggered men who have received University education themselves and who therefore realise, to some extent, the complicated nature of the great issues involved in the situation. I would earnestly advise the community to leave the consideration and decision of the whole University question in the hands of educational experts—men fully qualified by education and experience to speak on this question with authority—and I would implore those experts to do their work with thoroughness, courage and discrimination. The whole question bristles with difficulties; they must be realised and faced, and fair-seeming generalisations or hasty conclusions must be avoided. My own belief, founded upon a brief experience of the actual working of a University, is that our real difficulties will begin after the Charter has been granted and the Muslim University has come into existence; and my fear is that very few of the promoters of the scheme are giving themselves the necessary training to cope with the task that lies before them. The practical training in educational work which the Trustees of the Aligarh College are receiving under present conditions is not the kind of training required for the governing bodies of the proposed University, which, like the Syndicates and Senates of the existing Indian Universities, will be in independent charge of the whole work of higher education connected with the various faculties of Western and Oriental learning. Our University will be an examining as well as a teaching body, and questions relating to the laying down of standards, the selection of text books for all the examination, the appointment of Examiners, the conduct of Examinations, and all subsidiary matters will have to be thrashed out and settled mostly by men on the spot. The governing body of a College affiliated to a University, such as the Aligarh College, is never confronted with these problems; and when we remember the

increasing difficulties which the Aligarh authorities have to face as time goes on, we can form a faint idea of what is in store for the Court and Senate of the proposed Muslim University. Our educationists must therefore train themselves assiduously for the new work that they will be called upon to do; and if they fail to attain the requisite standard of efficiency I fear that the University which has been so much talked of will prove a doubtful boon.

UNDENOMINATIONAL INSTITUTIONS.

While on this subject I must remind you that your educational needs will not be satisfied by one University of your own; and you must therefore continue to avail yourselves of the facilities offered by the existing Universities and their affiliated Colleges in different parts of the country. In these Colleges your community is most inadequately represented, and you must exert your utmost to increase your numbers there. It is a fatal mistake to think that the education imparted in these Colleges is not suited to the requirements of the Mohamedans, and that they must form an educational enclave, as it were, of their own. The proposed Muslim University is a special measure of limited application, and in face of existing facts you will be unable for a long time to extend its jurisdiction over a very wide area. But even if this were feasible, I would seriously question its desirability, as it seems to me that in order to take their full share in the organic evolution of modern India the younger generations of Musalmans must keep in close touch with those of the other leading communities, and that object is best achieved in the mixed Schools and Colleges of the country. In a paper which I read before this Conference in 1893 on the "Education of the Musalmans in the Punjab," speaking generally of the undesirability of multiplying special educational institutions for the Mohamedans, I said:

"A still more forcible argument against such rash experiments is furnished by the impropriety, indeed I

may say the danger, of unnecessarily multiplying class institutions in this country. The modern tendency of setting up household gods, so to speak, in the shape of denominational schools, is not without its evil consequences to the different races in the Punjab. Already the Hindus and Muhammadans stand apart with the impassable stream of antagonistic religious and social opinions running between them, across which it is becoming more and more difficult for them every day to shake hands with even a show of cordiality. Is it then really to our common advantage that we should laboriously try to add to this distance of feeling by starting and replenishing separate educational institutions where the Hindus may learn to become more exclusively Hindu, and the Musalmans more rigidly, and it may be, more fanatically, Muslim? The Government Schools have created for us a common platform, on which the rising hopes of both the communities can meet in familiar school-boy intercourse and learn one another's failings and virtues—where the clash of interests may be softened down by mutual concessions gladly made; where the Hindu may learn the pluck and imperious self-respect of the full-blooded Mussalman, and the Mussalman profit by the perseverance and accommodating pliability of the meek Hindu. Let us not cast this blessing disdainfully aside, and in the blind race-conceit of the hour set up denominational colleges with the main object of emphasising congenital differences between the two communities, so as ultimately to crystallise them into two irreconcilable creeds. If you really feel the need for such Colleges, by all means have them, but your prime duty is, in all cases, to establish as definitely as possible this element of need. In such cases sentiment must always count for a negligible quantity, nor is it desirable to have a College as a mere ornamental appendage to a school or as an enjoyable luxury."

ESTABLISHMENT OF A SYSTEM OF SCHOLARSHIPS.

These remarks hold good, to a great extent, even at this day; and it is my firm conviction that one most practical way of fitting Mohamedan youths for the great struggle that lies before them in India is to let them rub shoulders with the more active and pushful young men of the other communities in mixed seminaries, so that their mental horizon should widen in early life and they should gain a deeper insight into the ideas, tastes and feelings of those with whom they will have to compete in later years.

To increase the number of Mohamedan pupils in these undenominational institutions, the best plan is to institute a sound system of scholarships in each Province, for experience shows that poverty is a serious impediment in the way of a large percentage of Mohamedan students who are desirous of prosecuting their studies up to a University degree, and that wherever special scholarships are provided for such students their numbers increase in a short time. In the Punjab the institution of what are called the "Jubilee Scholarships" in 1887 by the local Government did much to advance collegiate education among Muhammadans, and I believe that in other Provinces also similar measures have proved eminently successful. Among our people the demand for higher education is everywhere on the increase, and you cannot always start your own Colleges to meet this demand. Besides, you must remember that it is of the first importance to give a sound education to our young men; and you must therefore attach greater value to the *quality* of the education imparted by a College than to the *number* of its passes at the University Examinations. This is exactly the principle on which the Aligarh College is founded, and it would be a grievous mistake to depart from this wholesome principle. By giving unsound education to your youths in an inefficient institution you poison the very springs of national thought, and from a moral and intellectual point of view the result is disastrous. It is therefore far more useful to give scholarships to deserving Mohamedan students to enable them to receive good education in well-conducted and properly equipped Government Colleges than to establish, in a thoughtless mood and upon insecure foundations, your own Colleges, where with an enormous expenditure of money and labour you would only produce an inferior breed of graduates unfit to hold their own in the races of life against the cultured men of the other Indian communities.

I must incidentally observe here that the

economic side of the educational question demands your special attention; and it is an instructive commentary on your methods of work that, as a rule, the expenditure per scholar in Muslim institutions is larger than in Hindu Schools and Colleges of a similar type. For a poor community like ours this is a very serious matter; and I would earnestly advise our educationists to study closely the conditions prevailing in such institutions as the Fergusson College at Poona and the D. A. V. College at Lahore. The noble examples of self-sacrifice and of devotion to duty set by the Hindu Professors in those Colleges are also well worthy of imitation by Mohamedan teachers and professors in our Islamia institutions.

Pardon this digression. In my judgment the establishment of a national system of scholarships is the urgent need of the day amongst us, and I earnestly appeal to you all to give your very best thought to the matter. On a small scale the *Anjuman-i-Taraqqi-i-Ta'lim* of Amritsar and some of the Islamia Anjumans in several other towns have done good work in this direction, but the *modus operandi* is somewhat ill-conceived and ill-adapted to modern conditions, and our educationists would do very great service to Mohamedan education by laying down in this connection a well thought out scheme. Such a scheme should include the periodical award of scholarships to our promising young men to enable them to carry on their studies in foreign countries, more especially in technical subjects; and the general conditions laid down for the award of such scholarships should be similar to those that have yielded such splendid results in Bombay and in Calcutta, where the Tata Scholarships Committee and the Society for the Advancement of Scientific Knowledge, respectively, have been giving scholarships to deserving Indians to enable them to prosecute their higher studies in foreign lands.

TECHNICAL AND SCIENTIFIC EDUCATION.

Gentlemen, the need of imparting technical education to Mohamedan boys is becoming more and more urgent every day, and in view of the local conditions obtaining in some provinces, I think that this kind of education will make satisfactory progress in our community if sufficient attention be given to it. The industrial development of India has entered on a new phase; and it is a great mistake to think that we Mohamedans should confine our attention, for the present, to literary education, and that after perfecting it we can turn to technical education. It is obvious that such an argument does not hold good in respect of studies connected with the learned professions, such as Law, Medicine and Engineering; and it is equally obvious to my mind that the education of Mohamedans in industries and handicrafts, and generally in Commercial subjects, must proceed side by side with their literary education. So far, we have been very remiss in strengthening our wealth-producing power as a community, and the result is that our economic condition is radically unsound. This is emphatically an industrial age, and I would strongly advise our young men who read in Arts Colleges to give more attention to the study of physical sciences and economics than to modern languages and philosophy. The scientist is more in evidence nowadays in useful research work than the linguist or the philosopher; and at the present time the Indian Musalmans stand less in need of the polished writer of philosophic poetry dreaming his golden dreams in the dim light of his cloister than of the scientific man whose mind is well stocked with facts bearing on the material prosperity of his people and whose practical education enables him to grapple more successfully with the hard realities of life.

INDIAN GOVERNMENT'S EDUCATIONAL POLICY.

Gentlemen, the Government of India have recently laid down an extensive programme of

educational expansion, and the Mohamedans must be prepared to take full advantage of the facilities thus afforded for the spread of education among the upper classes and the masses of the country. The Government of India resolution, dated the 21st February 1913, sketched the broad outlines of the policy which the Department of Education intends to pursue in the matter of promoting both elementary and higher education, and that resolution marks a most important stage in the educational development of this country. Soon after, on the 3rd of April 1913, the Government of India addressed a circular letter to all the Local Governments and Administrations on the subject of Mohamedan education, calling attention to the unsatisfactory condition of that education, except in the primary stage, in all the provinces, and inviting suggestions and recommendations as to the best means of improving it. In that letter the Government of India expressed their anxious desire that all reasonable facilities should be provided for the education of Mohamedans and indicated generally the direction in which enquiry and special action will, in their opinion, be useful. The Government of India letter is still, I understand, under the consideration of most of the Local Governments, and the latter have asked for the opinions of the Islamia Anjumans and the leading Mohamedan gentlemen in their respective provinces on the points raised in the letter in question and generally on the subject of advancing Mohamedan education. I earnestly hope that the various Anjumans addressed by the Local Governments will consider the whole subject thoroughly in all its bearings, with special reference to their local requirements, and will submit practical and useful suggestions for improving the education of Musalmans in all stages of instruction, more especially in the secondary and collegiate stages, in which our community is most inadequately represented. We are all deeply grateful to the Government of India for the special interest it

has taken in Mohamedan education, and on behalf of the Indian Musalmans I may express the hope that the Local Governments throughout the country may see their way to adopt special measures to encourage and promote the education of their Mohamedan subjects in accordance with the policy outlined in the Government of India letter of the 3rd February last. The whole community is awaiting with deep anxiety the result of the momentous step taken by the Supreme Government in this matter; for the Mohamedans have now come to recognise that in modern education alone lies their salvation, and they feel that their educational development will be assured if their own efforts to improve their education are supplemented by practical sympathy and encouragement from Government. They know that at this moment there is at the head of the Indian Government a broad-minded statesman who is prepared to weigh sympathetically the special claims of backward communities to considerate treatment in the best interests of the general progress of the country; and they are determined, on their own part, to do all that lies in their power to help themselves.

ISLAMIA COLLEGE AT PESHAWAR.

A most gratifying instance of self-help on the part of our co-religionists and of sympathetic encouragement by a Local Government in the matter of our education is afforded by the recent establishment of an Islamia College at Peshawar. We are all deeply grateful to Sir George Roos-Keppel for the great interest which he has taken from the very beginning in the Islamia College scheme, and we thankfully acknowledge that the remarkable success which has attended the efforts of the Peshawar Musalmans in this matter is due mainly to his generous sympathy and support. This College bids fair to become a great moral force in the North-West Frontier Province, and among the Mohamedans of that Province the name of Sir George Roos-Keppel will go down to posterity as one of their greatest benefactors.

After a visit to the new Peshawar College a most prominent Mohamedan gentleman wrote to me about it the other day in these appreciative terms:—

"It is designed on a most liberal scale, and having regard to its romantic and lovely situation under the very eyes of the tribes who have for centuries balked so largely in India's history, it is impossible to realise its great capabilities in spreading the light of modern civilization among a people who have hitherto been found intractable to mere physical force. It looks as if that College will solve the frontier problem at last—what so many military expeditions have before this failed to do."

These are significant words; and they will give Sir George Roos-Keppel some idea of how very much his kindly help to a backward community in time of need has been appreciated by its thoughtful men. May I express a hope that the other Local Governments will also, in the same generous spirit as has been shown by the Government of the Frontier Province, help the Mohamedans to help themselves in promoting their education?

INTERCHANGE OF VIEWS ON GOVERNMENT LETTER.

In connection with the Government of India letter, I would advise this Conference to afford a reasonable opportunity to the leading representatives of the different provinces for an interchange of views on the general suggestions made in that letter as to the best means of advancing education among Mohamedans. The conditions which prevail in one province are necessarily somewhat different from those that exist in another; and therefore the measures that will have to be adopted for the improvement of Mohamedan education in the different provinces will not be identical. But having regard to the generally homogeneous character of the Muslim populations in different parts of India, their respective educational needs will be found to present many similar features, and this Session of the Con.

ference should afford a valuable occasion to our educational men to compare notes with one another and to arrive, as far as possible, at a common basis for future action. Special attention should be paid to the matter of secondary and collegiate education, for, as pointed out by the Government of India in their letter, it is in this respect that we lag far behind the other communities.

Gentlemen, there is an amazing disproportion between the foundations and the superstructure of your educational edifice, and this grave defect must be removed at all costs. Primary education in your community, though not very satisfactory, is fairly good in some provinces; secondary education compares very unfavourably with it everywhere; but when we come to higher education our deficiencies are most striking. In Arts Colleges and also in institutions where special branches of higher education are dealt with, the number of Mohamedan scholars dwindles into insignificance, and the result is a lamentable dearth of qualified men who can adequately represent and safeguard the interests of the community in the superior grades of the public services, in the learned professions and in other independent walks of life. Such striking developments are now taking place on every side in this country and the pace at which the other leading communities are pressing forward is so rapid that if you do not redouble your efforts to promote sound education among your co-religionists all along the line, more especially University education, both literary and technical, you will soon be confronted with a most difficult and complicated situation. You must try to retrieve your past errors and to revise and improve your methods of work for the future. If there is one remedy more efficacious than another for the ills from which your community is suffering, it is education; and in your anxiety to strengthen your position in India you must not commit the fatal error of frittering away your energies in other directions and in

more seductive spheres of work without first laying a firm foundation for your intellectual self-improvement. In proportion as you advance in education of the right type, with special reference to your peculiar needs, you will become more and more able to take your proper share and exercise your due measure of influence in the improved public life of the country; and you can then claim that attention of Government and that respect of the other Indian races to which, in the interest of the common weal, you must always aspire.

TWO ASPECTS OF EDUCATIONAL PROBLEM.

The educational problem with which we Indian Mohamedans are confronted has two sides—and these I may perhaps not inappropriately term the technical side and the liberal side. The technical side of our educational problem has reference mainly to our relative position, as compared with the other communities, in respect of the number of Mohamedan scholars in the various stages of instruction in Schools and Colleges of all kinds, the proportion of Mohamedans who have taken University degrees, their number in the learned professions, and their position in the public service of the country. In this connection, we have to study the causes of our comparative backwardness in primary secondary and higher education, and have to devise means for removing the existing disparity in this respect between the other leading communities and our own. The liberal side of the educational problem is concerned with quite different kinds of phenomena which exhibit themselves, in close affinity with the higher and more refined aspects of individual and national life, in an invigorating atmosphere of culture and enlightenment in which alone can flourish the most fruitful virtues of civilized man. I shall explain my meaning by a simple illustration.

In your experience of the concrete results of modern education most of you must have come across two types of educated men in this country,

One is that of a young man who has applied himself assiduously to his text-books; who by passing successive examinations has risen laboriously from the lowest rung of the educational ladder to the highest; and who, after a brilliant academic career, has carried off a great many of the prizes open to men of his time. In the student world he has the reputation of being a walking encyclopædia of knowledge, and his College fellows look up to him with nervous respect as a man of great erudition. But scratch him and you will find a barbarian, without a vestige of real culture in him, and he is none the less a barbarian because he carries a mountainous load of books on his back. As Sadi says: *Ohar pâyai barôktha bay chand*. The other type is that of the student who, in going through his School and his College curriculum, has paid more attention to the spirit of the books he has read than to their verbal frame-work; who has not distinguished himself in the examination-hall or won laurels at the University Convocation, but who has assimilated the knowledge placed at his disposal by his teachers; who has tried to apply it to the actual facts of life; who has acquired a wider and more practical outlook upon the world and has thus become a truly cultured member of society. His inner self is in perfect harmony with his enlightened exterior, and he is a moral force of no mean potency in his own social circle.

What is true of individuals is also true of communities, and among the latter you will find the same types of temperament and behaviour which I have described above. Now, although the present needs of the country are such that we must continue to pay attention to the technical side of our educational problem, or, in other words must try to produce from among us as many "educated barbarians" as we can, we must not lose sight of what I have called the liberal side of that problem, that is to say, we must endeavour to understand and assimilate and exhibit in

our daily actions the most enduring principles of modern civic life so as to become in course of time a community of cultured and enlightened men.

EDUCATION OF WOMEN.

The march of events in India has brought us to a stage of progress at which it should be impossible for anyone but the most bigoted Mullah not to recognise the urgent need of an organised and sustained scheme for promoting sound education among our women. In the West woman has been playing, for a long time past, a by no means unimportant part in the healthy evolution of national life, and of recent years signs are not wanting in the East, and especially in our own country, to show that the weaker sex is inwardly feeling its strength and seriously means to step out of its accustomed seclusion to take an honourable and increasing interest in the more practical concerns of the outside world. It is impossible now to stem the tide which is flowing in this direction even if some of you, with a supreme contempt for the needs of the times, were to think of doing so, and you would be well advised so to regulate it as to be able to divert it into proper channels. The enormous influence of woman on the essentially human side of the character of mankind must be obvious to the most superficial observer; and our first duty at the present moment is to refine and purify that influence in our country and to bring it to bear upon the totality of our individual and corporate life in order to make it more fruitful in relation to the great movements of the world.

From the time when the first stirrings of new life send a thrill of joy through an expectant family circle to the supremely critical moment when the last ray of hope is extinguished and the dark shadows of death close in upon an emaciated figure, the personality of woman stands out as being in close vital touch with some of the most powerful springs of human thought and action; and so her part in shaping the destiny of man

has been recognised in the modern age as one of great motive power. You will all remember the pregnant saying that the hand that rocks the cradle rules the world; and I may add that the delicate fingers that in the sick chamber close, with an inexpressibly affectionate touch, the eyes of the expiring man have ever been busy in unravelling the tangled skein of his private affairs which fill a large part of the span of life. The formation of useful habits in early life; the stiffening of the moral fibre in the child; the development of the social sympathies and antipathies of the youth; the successful working of that most delicate and difficult of all human relationships called marriage; the creation of an atmosphere of domestic harmony and concord, of affection and contentment in which the best private virtues always thrive—all these depend, in a large measure, upon the extent to which woman is trained and permitted to do her own proper share of work in society.

No scheme of national education will be complete among the Indian Mohamedans which does not make ample provision for the education of women on modern lines, with special reference to the peculiar needs of a progressive Islamic community. This does not by any means imply the wholesale adoption of the methods of instruction and of the standards of culture which have come to be associated with Western civilization; we in the East have our own distinctive traditions and predominant tendencies of thought, and we must evolve a new type of culture as the result of a wholesome combination of the Asiatic and European systems of training. One thing is, however, clear, and that is that the purely Eastern modes of education would be as stale, insipid and unprofitable in the case of our women as they have proved to be in the case of our men, and the community must make up its mind once and for all to allow its girls to be instructed in the elements of knowledge according to the more scientific methods of the modern age. The time

has long since gone by when even our leading men favoured the idea of concentrating all our energies upon perfecting the education of boys before taking up the question of educating our girls; we have advanced far beyond the stage at which such a view could be held and acted upon without endangering our national position in India. In these days the education of girls must proceed *pari passu* with that of boys, and I am certain that a disregard of this principle will result in serious difficulties and greatly handicap us in the race of life.

There is urgent need of emphasising this principle in our national system of education, and the public mind must be trained to recognise its importance. Unfortunately the Indian Musalman has still very primitive ideas on this subject; and this was made painfully clear only recently in the Punjab in the course of a controversy which was waged there over a proposal to introduce the teaching of English into the curriculum of a new Girls' School which has been started by the Anjuman-i-Himayat-i-Islam of Lahore. The question aroused a heated discussion both within the Anjuman and outside it; and I felt genuinely distressed at the enormous amount of turgid nonsense that was retailed in the vernacular press by writers who posed as well-informed critics, but who seemed to have the crudest conception of what education really means for the sexes and what the special requirements of the Mohamedans are in the India of the present day.

OUR BACKWARDNESS.

The question of the education of women upon improved modern lines has been seriously taken in hand by the other Indian communities, and even in the more backward provinces they can already show fairly satisfactory results. In the Punjab, for example, the small community of the Sikhs is far ahead of Mohamedans in giving education to women, and the Hindus who come next to the Sikhs in this matter are greatly our superiors. During the quinquennium ending with the official

year 1911-12, the number of Mohamedan girls has increased by 9.65 per cent. in the primary stage of education and by 1.45 per cent. in the secondary stage; whereas among Hindus (including Sikhs) the increase during the same period has been 17 and 6.40 per cent. respectively. In the North-West Frontier Province, according to the Report on Public Instruction for 1912-13, female education among Mohamedans is actually on the decline, among the causes assigned for this retrogression being the *parda* system and the lack of qualified teachers. In that province the number of Mohamedan girls in the Primary Department is 2.8 per cent. of the number of Mohamedan females in population, there being no Mohamedan girls in Secondary Schools; while among Hindus the number is 29.5 per cent. in the primary stage and 7.4 per cent. in the secondary stage of instruction. In these Provinces the number of Mohamedan girls under instruction in public schools has decreased by about 10 per cent. between 1906-07 and 1911-12, while the number of Hindu girls has increased by nearly 50 per cent. during the same period.

The comparative superiority of the other communities over you in the matter of female education is thus beyond question, and there is fresh evidence on all sides of their firm resolve to redouble their efforts in this direction. You must follow suit; and you must remember that in this matter, as in most other questions, there is no standing still; you must either press forward or lag behind. Woman is destined to play an important part in the East as she is already doing in the West; and we Indian Musalmans must rise to a conception of her true vocation in life before it is too late.

ACTIVE SYMPATHY OF H.H. THE BEGUM OF BHOPAL.

In this connection, I am sure I am voicing the genuine feelings of you all when I say that we owe a deep debt of gratitude to Her Highness the Begum of Bhopal for the keen personal interest which she has been taking in the education

of her sex and for the munificent donations which she has made from time to time in aid of that cause. I trust that her noble example will be followed by the other Ruling Chiefs in this country. I must also take this opportunity to express our warmest thanks to Maulvi Syed Karamat Husain, who among Middle Class Mohamedans is, I believe, the first gentleman who has set apart a large fund for the endowment of female education in his own province, and who has thus taken the lead in a matter which is one of exceptional importance to our community and to the country at large. The Female Education Section of this Conference would do well to carefully study Maulvi Karamat Husain's educational methods and to act upon them, for I am afraid the work of this section needs to be overhauled and improved and the results so far achieved by our Girls' School at Aligarh are far from satisfactory.

MOHAMEDAN EDUCATIONAL ENDOWMENT.

Another question which has a most practical bearing on the educational progress of our community is that of the administration of Mohamedan educational endowments. I think that it is a grave reproach to this Conference that during the 27 years of its existence it has left wholly untouched this question, which is one of the utmost importance, and upon the right solution of which depends, to a great extent, our educational salvation in some parts of the country. In connection with the spread of secondary and higher education among Mohamedans, the question of ways and means has always been a troublesome one with our workers; and many a note of pessimism has been struck on momentous occasions by our leading men owing to the slow response to their appeals for funds given by the rank and file of the community. And yet how many of us have thought of devoting a little of our time and attention to the question of utilizing for our pressing needs the existing educational endowments which we owe to the munificence

of generations of pious Musalmans in various parts of India, but of which the persistent mal-administration is a positive disgrace to our community. Three years ago when an organised effort was made throughout the country to collect funds in aid of the Muslim University scheme, a leading Anglo-Indian paper pointedly called the attention of the Mohamedan leaders to the vast annual incomes which the charitable and educational endowments created by Mohamedans in India were yielding, and which, if properly administered and applied to their legitimate purposes, were amply sufficient for financing more than one Muslim University. Is it not a grave reflection upon your common-sense that a non-Muslim writer should have placed his finger on your weak point and should have indicated to you the one practical way of solving a difficult problem? How long will you neglect your plain duty and allow large sums of money, which, according to the intentions of the original donors, must be spent in promoting the education and the mental and moral improvement of younger generations of Musalmans, to be misappropriated by interested usurpers to the utter demoralization of every party concerned?

RECENT ACTION BY EGYPTIAN GOVERNMENT.

Only recently the Egyptian Government has created a new Ministry of *Wakfs*, and the step is said to have been received with warm approval by the Muslim population in Egypt, as it is felt that the control of the *Wakfs* by the Government will ensure more efficient administration. The manner in which charitable endowments used to be administered under the old system in that country led to a scandalous misapplication of the trust funds, with the deplorable result that many of the institutions for the maintenance of which the benefactions were originally intended languished for want of financial support. An Egyptian writer in a recent issue of the *Near East* drew a melancholy picture of the way in which religious endowments were

mismanaged in his country, and he attributed the decay and disorganisation of the once famous *Al Azhar* University mainly to this cause. It is a gratifying sign of the times that the Egyptian Government has at last turned its attention to this momentous subject, and is determined, even at the risk of offending the susceptibilities of interested parties, to carry out a much-needed reform. I think that in our country the time has come for making a move in the same direction, and we must move with a firm step and a high resolve. We must institute a searching enquiry into the history and working of the Mohamedan educational endowments in different parts of the country, and must adopt such practical measures as would ensure their proper administration in accordance with the intentions of the original donors and to the real advantage of the classes which were intended to be benefited by those endowments. I would suggest the appointment of a representative Committee by this Conference to undertake such an enquiry, and the Committee should be asked to place itself in communication with leading Mohamedans in all the provinces, and, if necessary, with the Local Governments, to enlist their sympathy and support in this great cause. The question is so important that you must not shrink from your duty for fear of arousing opposition; the thoughtful section of the community will be with you if you will only persevere; and by the use of a little moral courage you will achieve results for which the coming generations will have cause to bless the name of this Conference.

CHIEF FAILINGS OF MOHAMEDANS—WANT OF SELF-DISCIPLINE.

Gentlemen, if I were asked to sum up in one short phrase the failings of the Indian Musalmans at the present moment, I would reply—Want of Self-discipline.

I am aware that human activity spreads itself over such a vast surface and expresses itself in

such a variety of concrete forms that any generalisation intended to cover its innumerable manifestations in any one phase of life would often be both misleading and untrue. But at the same time we can, I think, discover at any particular stage of the moral and material progress of a community some of the predominant traits of its character which manifest themselves with more or less persistence in its thought and action, and which, for the time being, serve to differentiate it from other communities. It seems to me that we Mohamedans suffer, in a peculiar degree, from a lack of disciplinary self-restraint, and even our virtues are at times made to appear as serious faults because of this great defect in our national character.

ITS ILLUSTRATIONS.

Illustrations of this can be easily furnished from the religious and secular life of our people. An excess of zeal in the observance of religious ceremonial is the most striking characteristic of the Musalmans, and their piety often manifests itself in extravagant forms to the utter disregard of the spirit underlying their religious precepts. They forget that Islam in all its injunctions insists upon a reasonable adjustment of the religious and the secular duties, discourages asceticism with its excessive devotion to the affairs of the next world, and enforces the rule of the golden mean between two extremes in all human relations. Our preachers always administer an over-dose of theological admonition to their congregations, and the latter are thereby led to be overzealous in their performance of the chief practical duties enjoined by Islam, regardless of the limitations imposed in connection with them by the great Law-giver. Much of our energy thus runs to waste; a spirit of indifference towards some of the chief concerns of life is engendered; and little activity is shown by our people in overcoming the difficulties that lie in the path of secular advance. Think for a moment of the way in which our most useful institution of alms-giving is abused

by the generality of the pious Musalmans. Every one of them considers himself free to dole out his charity as he chooses; the objects of charitable relief are not carefully selected; no method is observed at all in the distribution of such relief; all advice and directions for the organisation and systematic control of *Zakat* are resented; and the result is an appalling waste of substance and strength which, if the Musalmans only submitted themselves to a little judicious discipline, could be utilised to great national ends. Our educational institutions would not then be starved, as is the case now, through want of financial aid, and the problem of Mohamedan backwardness would be partly solved. Consider, again, the serious difficulties which have to be faced both in India and in Arabia itself, because Mohamedans who are too poor to pay the expenses of a pilgrimage to Mecca and who are therefore prohibited by Islam from undertaking it, insist on going to the *Hejaz* in large numbers every year, with the result that many of them are either left to perish in Arabia or prove a heavy burden to their richer fellow-pilgrims. The drain on the resources of the Musalmans involved in this proceeding which is repeated year after year, is enormous; and it could be easily avoided if they were to learn how to strictly regulate their exuberant religious fervour according to the very sound rules laid down by Islam. The one great fault in the Muslim character is want of sobriety, moderation, restraint and self-denial, and yet these are the qualities to which Islam assigns a high place in the list of human virtues. A man can be as selfish, wasteful, and immoderate in devotional exercises as in his worldly relations with his fellow-beings, and the inculcation of this truth should be the aim of all religious education.

If we turn to the secular side of our life, we find that want of self-discipline is a great impediment in the path of Muslim progress. The tendency observable in the younger generation towards destructive criticism without a corresponding

anxiety to show constructive work is an illustration of this failing, and one result of this unhappy tendency has been a weakening of the sense of responsibility in our community which may do a great deal more harm than it has already done. Again, consider the utterly unmethodical way in which the very large funds collected from the Indian Musalmans in aid of various movements have been administered in this country, and you will find that you have a great deal to learn from other communities as to how you should regulate your patriotic action by reference to business maxims in order both to prevent your resources being frittered away and also to apply your funds to their proper objects. This is one way of educating your community to a right appreciation of some of the factors which make for moral and material progress in India.

OUR URDU POETRY.

Another department of human activity in which we Mohamedans suffer from lack of discipline is our literature, and in this connection I shall call your attention to one phase of our amorous poetry. The beloved of the Mohamedan Urdu poet of the old school, in whom is incarnated his highest conception of human beauty, is a freak of nature with a mouth little bigger than the geometrical point and a waist thinner than a hair. As an example of the former, we have the couplet of a Persian poet whose style and taste our Urdu poets have tried to imitate and acquire:

Kurdee ba nuthq nukhtayai mo homa ra tho neem

Ayai nakhisai kalamai hakeeman bayan thoo
and as an instance of the latter, I may quote the well-known verse of an Urdu poet—

Sanam kahtai heen thairy bhi kamur hai

Kahan hai kistruf koo hai kidhar hai.

If you think for a moment, you will perceive that in the domain of literature this kind of poetry, illustrating as it does the poet's passion for immoderate exaggeration, is the direct result of want of discipline in the poetic faculty; and when it is remembered that all our best writers on

Prosody assign to *moobaligha* a high place among our recognised figures of speech which are supposed to lend beauty and force to our poetry, you will admit that we lack disciplinary training not merely in the common every-day affairs of our life, but also in regard to some of the natural springs of thought which should powerfully contribute to our intellectual improvement.

APPEALS TO SENTIMENT.

While on the subject of our poetry, I must not omit to mention what I consider to be a somewhat serious defect in the proceedings of most of our educational bodies, including this Conference. At our annual gatherings it is customary to allow poems to be read with a view generally to appeal to the patriotic instincts of the audience, to remind the present generation of Musalmans of the depths of degradation to which, as compared with their worthier ancestors, they have sunk, and to enlist their active sympathy and support in the cause of communal progress. No object could be nobler than this, and the motives which prompt the poetical compositions of our young authors are worthy of all praise. But mark the practical effect of such proceedings on our methods of work and on the temperament of the community. With an eastern people constant appeals to sentiment have an insidious way of producing responsive emotions of a more or less ephemeral character, with the result that, for the time being, an imaginative frame of mind is induced in the audience, which by a repetition of the same influence tends to become hardened into second nature, and all initiative for practical action, divorced from the feelings, is in consequence considerably weakened. My own experience is that, except on occasions of special significance when a strong sense of impending danger or of imperious necessity urges them on to immediate action, the Indian Musalmans are content to limit their activities to fervent appeals to the imagination and in cooler moments generally omit to take stock of the practical results of those

OUR LITERARY SECTION.

The want of a practical spirit in our community is shown by our treatment of the Urdu language, for the development of which a special section of the Conference, called the Literary Section or the 'Anjuman-i-Tarraqi-i-Urdu,' was long ago constituted. The work of this section has been carried on in a most irregular manner, and the spasmodic efforts made by this Conference to promote the interests of Urdu are the least praiseworthy part of its annual proceedings. Urdu, popularly known as Hindustani, is the *lingua franca* of the Indian Musalmans—indeed of all classes of Indians in the greater part of India—and a most notable item of our educational programme is the literary and scientific development of this language. We have done very little in the way of discharging this obligation; and unless we bestir ourselves to do our duty in this matter we shall be confronted with far more serious difficulties than those which Mohamedans have already encountered in Bihar and in these Provinces. As compared with the other Indian languages, Urdu has so many obvious advantages on its side that even with a moderate aid from this Conference, given in a methodical manner on sound lines, it will overcome all the obstacles in the way of its further development. For a time we must discourage and reduce the output of Urdu poetry and induce our young men to enrich Urdu prose by translations from the English language generally on scientific subjects connected with modern research work; and to achieve this end, we must compile a complete Urdu Dictionary of scientific terms covering all the modern sciences, these terms being either translations or adaptations of the terms which are in frequent use in English and in the other scientific languages of Europe. A small committee of experts should be appointed for the purpose, and they can utilise the material which, I understand, has already been collected and partly arranged by some prominent workers in the Literary Section, and can also invoke the aid of appeals. A community with a temperament such as this has much to learn from other peoples who are blessed with a less emotional frame of mind, and much to unlearn before it can successfully compete with them in this work-a-day world of ours. One thing which you must learn is how to do your work, whether educational or other, in a business-like manner, with cool calculating heads and without a hysterical display of imaginative fire which not infrequently only ends in smoke. If the special circumstances or needs of your community compel you in some places to have something more than a prosaic programme of work, you might perhaps have a little poetry now and then, but you must make up your minds to confine its use within the narrowest limits; and above all you must see that it has direct reference to the work before you and is not allowed to usurp the time and attention which can be more usefully devoted to a worthier occupation. As is the case with Western people, you must conduct your educational work everywhere in India on business lines, keeping sentiment wholly in the background. Study your educational needs most carefully, with special reference to time and place; collect your data industriously and draw your inferences from them in a dispassionate spirit; mark the actions of the other communities in the country, and while adopting their good points eschew the bad; induce your people in backward places to take full advantage of the facilities offered by Government for promoting education; supplement by private enterprise of the right kind, wherever necessary, the efforts of Government in this direction; and above all, start local organisations in all parts of India which, on the one hand, should be in close touch with the Mohamedans of the locality, and on the other should place themselves, through a representative provincial body, in communication with this Central Conference. A practical spirit of work will thus permeate the community, and you will be able to achieve a large measure of success in educational advance.

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Muslim communities in all parts of the world. It is also an auspicious coincidence that an English statesman and man of letters of the position of Mr. Bryce has recently suggested the desirability of establishing at Cairo a School of Islamic Studies, and it is a matter of great satisfaction to find that this proposal has been received with enthusiasm by European scholars both in England and on the Continent. If the suggestions of Mr. Bryce were carried out and a school established at Cairo on lines similar to those on which the British School at Athens is constituted, it would prove a useful training ground alike for the scholar and for the statesman of the West, as through a closer study of the Islamic languages and literature they would gain a deeper insight into the working of the Muslim mind and of Muslim institutions, which are at present almost a sealed book to them. The bonds of intellectual sympathy would then be drawn closer between the West and the East to the great advantage of both, and despite the sceptical forebodings of the English poet the twain might one day meet.

CONCLUSION.

Gentlemen, to the Indian Mohamedans, Agra where we are assembled to-day, is an enchanted name round which cluster some of the best traditions of Muslim progress and culture; and it is in the fitness of things that you should draw your inspiration from the historic scenes and sights that surround you. The very ground on which you are treading must recall to your minds the stirring memories of a heroic age, when your co-religionists bore with admirable fortitude the heat and burden of the day, and with patient labour, unflinching resolution and indomitable courage developed the arts of war and peace and maintained for a long time a high standard of civic life. At a time when the tide of Mughal

Supremacy was almost at its lowest ebb, the constructive genius of Akbar the Great, brought the scattered elements together, evolved order out of chaos, and devised and perfected a system of administration which has been the wonder of Indian statesmen down to the present day. Under his imperial care the arts and sciences flourished to a degree hitherto unknown to Mohamedan India, and it was his master-hand that laid the foundation of that fusion of the Indian races which in this distracted land, still rent asunder by inter-communal strife and religious antagonism, must ever be the ambition of the highest statesmanship to accomplish. A little later came to the Mughal throne Shah Jehan the Magnificent, who gave India a long spell of peace—peace that hath its victories no less than war—who patronized piety and learning and exalted merit above ancient lineage and riches; who made art the study of princes and placed before the people the best specimens of æsthetic culture; who immortalised the most abiding phase of human affection by building the Taj,—that perfect embodiment of faith, hope, love and beauty of which not India only but all the world is proud. That inimitable monument, with its magnificent dome poised in the clear, crisp air of a winter morning and its tall minarets shining in the rays of the risen sun, holds aloft before you, if only you would reflect for a moment, the highest ideals of purity and refinement, of devotion and self-sacrifice, which are, and must always be, the aim and object of all true education.

From Sikandra on one side and from the Taj on the other the two great Mughal Emperors are watching your proceedings and your work with sympathy; they are with you in spirit; and it is for you to show by the manner in which you would discharge your great trust how far you are worthy of their benedictions.

University of Madras.

MEETING OF THE SENATE.

The Annual Meeting of the Senate was held on the 30th Oct. 1914 in the premises of the Senate House, Chepauk, when a large number of Fellows were present. The Hon'ble Sir John Wallis, Vice-Chancellor, presided. The meeting lasted for full three hours and out of 30 items on the agenda the meeting was only able to get through the first five. There was considerable discussion on the sixth item, the item which related to the desirability or otherwise of the introduction of new fees and the enhancement of existing fees for University examinations and to the possibility of a retrenchment of University expenditure with special reference to the finances of the University.

ANNUAL REPORT.

The printed report of the Syndicate for the period extending from 1st August 1913 to 31st July 1914 was placed before the Senate.

NEWLY-APPOINTED FELLOWS.

On the motion of Mr. B. Hanumantha Rao, seconded by Mr. J. B. Cotelingam, the following *ex-officio* Fellows and the newly-appointed Ordinary Fellows were assigned to the respective faculties:—

The Hon'ble Mr. A. G. Cardew, Mr. Mark Collins, Mr. W. J. Prendergast, Mr. Alma Latifi (Faculty of Arts) and Mr. Arthur Davies (Faculty of Law.)

EXEMPTIONS.

Rev. J. D. W. Sewell moved and Mr. C. P. Ramaswami Aiyar seconded, that the recommendations made by the Syndicate to exempt candidates for the Intermediate and other exami-

nations of the University from the production of attendance certificates be approved; and this was carried.

MEDICAL STUDENTS WITH THE HOSPITAL SHIP.

In the absence of Lt.-Col. G. G. Giffard, I.M.S., who came a little late, the Hon'ble Dr. T. M. Nair moved:—

"That, in the case of students from the Madras Medical College selected to sail with the Hospital Ship 'Madras', the lectures and clinical instruction provided for them on board the ship may be recognized as equivalent to the courses of instruction prescribed by the Regulations for the Degrees in Medicine, and that such students may be considered as having been engaged in medical studies in accordance with the Regulations during the period of their absence as if they had been in regular attendance at the Madras Medical College, subject to the production of certificates signed by the Superintendent of the ship that their conduct and progress have been satisfactory."

In doing so he said that there were 16 or 20 students who would be proceeding with the Hospital Ship. There would be ample opportunities for them of seeing work in the ship as they would exactly see in the General Hospital, systematic clinical lectures would be delivered to them. Other instructions would be given to them as they would receive in the Madras Medical College and the General Hospital. This proposition was moved in order that those students might not suffer in their college course owing to their absence.

The resolution was seconded by Dr. Downie and carried.

capable young men who may be moved by a patriotic impulse to undertake the work as a labour of love. In this matter we must take a leaf out of the book of our energetic Hindu friends in these Provinces who have already compiled a dictionary of the kind I am speaking of in the Hindi language, and whose active and persistent propaganda in aid of the cause of Hindi affords a valuable object-lesson to our community. I commend the whole subject to the special consideration of the chief promoters of our Literary Section.

NEED OF IMPROVED ORGANISATION.

Gentlemen, of the many pressing needs to which you must attend without delay the most urgent is that you must improve and strengthen your organisation. At present we have a Central Standing Committee of the Conference on which all the provinces are represented and on which is thrown the whole work of arousing interest in the annual sessions of the Conference, of keeping its machinery in proper order, and of taking what little action it can on the resolutions adopted at each session. No wonder that this work is not at all satisfactorily done, and that we meet and disperse each year without showing any very practical results in the way of influencing materially the course of Mohamedan education. In these days no great movement can succeed without being backed up by a strong and extensive organisation which will focus and utilise the interests and energies of a large body of men, and this Conference must strengthen its influence upon that basis. In each province we must have a permanent educational committee, to be called the Provincial Standing Committee, which should be in direct and constant touch with the Central Standing Committee at Aligarh, and under whose auspices a Provincial Conference should be held each year for the consideration of all important educational questions affecting the Mohamedans of that particular province. Under each Provincial Committee there should be District Committees in

all the important mofussil towns with Mohamedans of position and local influence as their members, and these should work in co-operation with, and under the direction of the Provincial Committee. The whole country would thus be covered with a net-work of Muslim Educational Committees, through whom it would be easy for this Conference to make its influence felt over a very wide area; and with such an organisation we should also be able to secure a continuity of practical work throughout the year without which it is difficult to achieve any very definite results in the field of education. At present we simply content ourselves with holding each year the Annual Session of the Conference in a large town and with passing a certain number of resolutions at each session. No community ever prospered by merely recording high-sounding resolutions on paper; and the time has now come when this Conference should show less activity in passing resolutions and greater resolution to put them into practice.

OUR FAVOURABLE OPPORTUNITIES.

At the present time we have exceptional opportunities of making our efforts in this direction fruitful. A general awakening has come over the Indian Musalmans; and if we assign to education the foremost place in our national programme and concentrate our energies upon it, there is for us ample reason to be sanguine as regards our future in this country. My own view is that, as compared with Muslim communities in other parts of the world, we in India are most favourably situated both as regards the great facilities we have for initiating and carrying out to a successful conclusion a sound system of national education and also for the purpose of acquiring the capacity of evolving by a judicious application of that system to the broader aspects of civic life, a type of culture more in harmony with the world movements of the future. In the first place, we have the singularly good fortune to live under an enlighten-

EDUCATIONAL PROGRESS IN THE MUSLIM WORLD.

ed system of Government, conducted by a most practical and progressive people from the West, who have guaranteed to us perfect freedom of thought and speech and action; who have placed within our reach the best means of acquiring the priceless treasures of knowledge through one of the richest languages of modern age; whose methods of administration contain for us the most instructive object lessons of self-knowledge, self-reverence and self-control; who are carrying out in practice some of the best precepts of your own religious teachers, and who are showing us by example how immeasurably superior is the active philanthropy of a Western community over the dreamy spiritualism of an Eastern race. To have been placed under the control and guidance of such a cultured nation is all for your good; and for my own part, I can see in it the hand of Providence working to a great end. In the second place, we have the inestimable advantage of being in intimate touch, in all the chief concerns of individual and corporate life, with a most intellectual and resourceful people in the East, who have behind them a proud record of a marvellous old world civilization, and whose future is full of great possibilities and bright hopes. For a Muslim race to have been thrown into contact with such a people is a most momentous event in history, and I cannot believe that this is a mere fortuitous concurrence of two Eastern communities and creeds having no definite relation to the future well-being of humanity. To my mind, the comingling of the Saracenic and the Aryan civilizations in India marks the confluence of two intellectual streams of great potency, and the future fertilization of the Eastern mind under the stimulating and refining influences of Western culture may well be regarded by the Indian Musalmans as a matter for sincere self-congratulation. What other Muslim community in the world is placed at the present day in a similarly favourable position or can reasonably look forward to the prospect of participating in an equal degree in the moral and intellectual emancipation of mankind?

In thus assigning to the Musalmans in India a pre-eminent position as regards the opportunities which they enjoy for progress I am not unmindful of the fact, which is most gratifying to us all, that the light of education is gradually spreading in other parts of the Islamic world, and that there are on all sides signs of a general re-awakening among Mohamedans and of a genuine desire on their part to improve their condition. It is a hopeful augury for the future of Islam that in some parts of Asiatic Russia and even in the outlying provinces of China, Musalmans of light and leading are feeling the need for advancing the education of their co-religionists, and to attain that object they are opening schools of their own and taking other similar steps more suited to their local requirements. Turkey has already made considerable progress in modern education; and what is specially noteworthy is that the Turkish women are eager to receive education and to take an active part in the moral and social evolution of their country. The Egyptian Mohamedans are also gradually appreciating the value of higher education of the modern type, and the recent movement in favour of re-organising *Al Azhar* academy on the lines of the European universities may prove to be the beginning of a most useful educational reform. But the event which is of special significance from an intellectual point of view is the recent decision of His Imperial Majesty the Sultan of Turkey to establish a University at the Holy City of Medina; and if the proposed University is organised and conducted on sound educational lines the ceremony of laying its foundation-stone which was performed by Sheikh Shawish on New Year's day will mark the opening of a notable chapter in the history of Muslim advancement. The possibilities of a well-equipped *Dar-al-Ulum* at Medina are indeed great, and under efficient management it may develop into a potent instrument for the spread of enlightened ideas among backward

ADMISSION OF STUDENTS TO INTERMEDIATE
COURSES OF STUDY.

Mr. L.C. Hodgson moved the following first part of the Resolution in accordance with the report of the Committee appointed by the Senate on March 21, 1914, to consider and report upon the question of admission of students to Intermediate courses of study:—

(1) "That the Syndicate be requested to issue definite rules and directions under Regulation 166 (a) to provide that no holder of a completed Secondary School Leaving Certificate shall be admitted to a University course of study or shall be registered as a Matriculate, unless he has obtained a minimum percentage of marks in certain subjects, the percentage and subjects being from time to time specified by the Syndicate, and that it be a recommendation to the Syndicate that the above minimum should be fixed on the basis of the public examination marks as well as the school marks, the latter being moderated in all cases with reference to the school average in the Public Examination."

In doing so he pointed out that a number of unfit students could secure admission to the University courses under the present system. That was most undesirable in the interests of students and the Colleges. A number of less qualified students were in the habit of petitioning and importuning Principals of Colleges which was most unedifying and that must be put a stop to. The Syndicate at the last meeting of the Senate made proposals to deal with the matter, but they did not commend themselves to the Senate. Accordingly a committee was appointed to deal with the matter. The principal difficulty was that for the purpose of admission to Colleges it was necessary to make use of the instrument of Secondary School Leaving Certificates. It must be admitted that to a certain extent the said certificate was quite a sufficient guide. In certain cases and in all Colleges the Principals could easily find out from a perusal of the certificates

who were fit and who were not fit. But the difficulty came in the case of young men who were intermediate between those who were obviously fit and those who were obviously unfit. The general impression from a perusal of the certificate was not clear in the case of such students. Therefore what was needed was some definite standard to guide the Principals of Colleges in determining whether a certain boy should or should not be allowed to matriculate. Objections were raised that the recommendations made by the committee were arbitrary. The S. S. L. C. Scheme was instituted not for the purpose of Matriculation but for other purposes. The University had been careful not to commit themselves to the School Final Scheme. The scheme drew an inexorable line regarding the age of students. The recommendation of the committee did not draw any such arbitrary line. The second objection was that the recommendation of the committee would amount to a return to the evils of the old Matriculation. It was not so. The old Matriculation was a very rigid test. There was a number of particular subjects which students had to take up compulsorily, whether they had a particular inclination to those subjects or not. But under the School Final Scheme there was a large number of optional subjects which the students might take up or not. Under the present system there were the school marks and the marks of the final examination to enable Headmasters to find out the merit of the students. The committee after deliberation came to the conclusion that a certain minimum should be fixed by the Syndicate and the percentage should be calculated not only on the marks of students in public examination but also on marks obtained by them in their school work. It was therefore proposed that the marks should be moderated in a particular way. It was also thought desirable that as far as possible the standards in all schools should be reduced to one uniform level, as standards in giving marks at present necessarily varied very

much among Headmasters. The committee recommended that a levelling of marks should be adopted and that the marks gained in schools should be expressed in terms of the presidency average achieved in the year.

The proposals of the committee were in fact nothing more or less than the recommendations which the Syndicate had, year after year, made to the Principals of Colleges and the committee now asked that those recommendations should be converted into a regulation. It was time that the Syndicate should exercise its powers in a definite way and it was necessary that there should be definite rules and regulations on the point.

Mr. C. P. Ramaswami Aiyar in seconding the motion said that the committee had thought about the best method to meet the evil. The Syndicate's recommendations issued from time to time had not been adhered to. The committee did not like to cast aside the elastic rules of the School Final System to test the proficiency of the students. The question was how to moderate the class work and make the test of class work sufficient to fit in with the general scheme of efficiency. If a student failed in the public examination and if his class work was satisfactory, he ought not to be debarred from entering the University course. The present proposals assimilated the advantages of the public examination and the school work as well.

Mr. S. Srinivasa Iyengar moved to omit the words "the latter being moderated in all cases with reference to the school average in public examination." He explained that this amendment was based on a perusal of the report of the committee, which passed the following resolutions:—

"(1) That it be a recommendation to the Senate that Regulation 166 (a) be amended by the omission of the words 'if he be satisfied as to their fitness.'"

(ii) That in the opinion of the committee no holder of a completed Secondary School Leaving Certificate should be admitted to a University course of study or registered as a Matriculate of the University unless he has obtained a minimum percentage of marks in certain subjects, the percentage and subjects to be specified by the Syndicate from time to time; and that the above minimum should be fixed on the basis of the public examination marks as well as the school marks, the latter being moderated in all cases with reference to the school average in the public examination.

(iii) That it be a recommendation to the Senate that the Syndicate be requested to issue definite 'rules and directions' on the above lines under Regulation 166 (a)."

He particularly referred to the expression school average in resolution (ii) above and said that the resolutions would prejudicially affect many clever students.

Mr. Hodgson then explained that the word 'average' was a misprint for 'actual'.

Mr. Srinivasa Aiyangar thereupon withdrew his amendment.

Mr. W. H. Hoare in opposing the proposition pointed out that the remedy was a drastic one. The recommendation would work very hard on candidates that were nervous in public examinations or sick during that time. Further, students of social position would be shut out of the College course if this proposition was carried. Their career in the College would be highly beneficial to them, as that would train them to better discharge their duties in after life. Absolutely no loop-hole was given to such students by the proposition. It was better that the Colleges were left alone to win for themselves renown or condemnation. Colleges should be encouraged to do that. Two or three Colleges might join together and fix a common standard for themselves.

Mr. Natesan said that the proposal was certainly an improvement on the S. S. L. C. system. The

committee would have done better if they had recommended that that system was unworkable and that the old Matriculation should be restored in some form or another. He then pointed out the defects of the present system and how it affected the finances of the University. He was of opinion that if a student was successful in a particular subject, he should be given a certificate for prosecuting his studies in the College course in that particular subject.

Sir V. C. Desikachari opposed the proposition and said that Headmasters might have committed errors of judgment, but they should be given time to correct imperfections. According to the proposition the Syndicate would fix a minimum from time to time. On the other hand all that the Senate wanted was to get rid of artificiality. If a boy was good in the classes and failed in the public examination for some reason or another he should go up and there was the Intermediate examination to check unfit students.

The Hon'ble Mr. V. S. Srinivasa Sastri believed that the elimination of the discretion of the Principals of Colleges was necessary, as at the end of a certain period every Principal became more and more lenient in certain matters. If a student did very little in one subject, he was allowed to compensate his deficiency in certain other subjects. That was a matter left to the discretion of the Principal and the evil will remedy itself in time. But, under the proposal everything was definitely prescribed. If the evil was great, remedy must be found for it, but the remedy suggested was drastic.

The Hon'ble the Zamindar of Doddappa-naikanur said that it would be a great blunder if an average student was debarred by restrictions of marks from attending the College course. The levelling up and down of marks would amount to the minimum of marks fixed by the old Matriculation. Largest discretion should be given to Principals who would feel the responsibility given to them.

Mr. K. R. Gurneswamy Aiyar said that the system so far as it centred on the discretion of the Principals of Colleges had been found to be a failure.

It left too much power to the Headmasters the best of whom could not be impartial to applicants. It was not possible at present for Principals of Colleges to rely upon a uniform standard and those Principals must turn out to be tyrannical though unconsciously. Their decisions in many cases did not commend themselves to those who were interested in the students and education in general. To make one responsible for a good deal was bad. It was not every College that had a council or a committee to deal with the matter. In such cases the power of the Headmaster was practically absolute. The proposition did not withdraw the power of the Headmaster completely. The marks of the public examination and the school marks would be taken into consideration. The school marks indicated the scope for the exercise of discretion on the part of Principals of Colleges and those who were associated with them in the working of those Colleges. The proposal contained the good element of the School Final system and the benefit of a uniform standard supplied by a public examination. There was nothing very objectionable in the proposal. If this was tried for a few years they might grow wiser and find out better remedies.

Mr. K. Ramanujachariar of Pachaiyappa's College said that the condemnation of the School Final system came from those who had no touch with education. There had been no falling off in the average level of students in the Intermediate class. There might possibly be occasional errors of judgment on the part of Heads of Colleges. On that account there should be no wholesale condemnation of the system. The proposal before the Senate was the best one, being a compromise between the old and the present system. Matriculation was too rigid and

the School Final was too lenient. Further the Syndicate did not lay down minimum in every subject.

The Hon'ble Mr. Seshagiri Aiyar said that one of the chief merits of the present system was that it afforded a large margin to Principals in the matter of admission of students. In addition to fixing the minimum in certain subjects, latitude should be given to Principals of Colleges to admit students who had shown special capacity in certain subjects. But as a working basis the proposal should be accepted for the present and in time to come further amendments might be proposed. The present proposal was not altogether an unreasonable one.

Mr. S. Krishnasamy Aiyangar (Mysore) said that the proposal was to test the work of the various schools coming under the system. The object of the public examination was to judge the different capacities of various Colleges. The expression school average in the report was correct.

Mr. J. P. Kotelingam said that the proposal took away from Heads of Colleges the responsibility of matriculating their own students. It was a pity that the most important point in the School Final scheme should be marred. He would allow things to remain as they were, provided the Heads of Colleges wished to be relieved of the burden of tabulation.

Rao Bahadur A. C. Pranatharthihara Aiyar suggested that the words "passed" and "failed" should be entered in the mark books and those books should be used as passes for entrance to the University and the service as well. That would be a great step in the right direction.

Mr. K. V. Rangaswamy Aiyangar said that the school marks should refer to the entire record of the students of the higher Secondary course and not the last year course alone. A student's fitness for admission should be judged upon the total record. If the proposal was to be made workable,

the Headmasters should know by what standard students should be judged. If the resolution was to have any value at all, the Syndicate should not be given any option in accepting this or not. That was the only practicable solution of the matter.

The Vice-Chancellor replied that the proposal was only a request not a mandate. The Syndicate would follow it more or less.

Dewan Bahadur L. A. Govindaraghava Aiyar said that there were 9 educationists on the committee, and they were fairly representative and their recommendation was to take away altogether the discretion of the Heads of Colleges. It was perfectly competent for the Syndicate that in a case where a student had done particularly well only in some of the important subjects, a similar percentage of marks might be allowed to entitle him to get into the Intermediate class. There was nothing inconsistent in the proposition.

Mr. Hodgson in his reply said that the committee considered the point of Mr. Hoare and found it impracticable. The proposition would not have the effect of depriving the Colleges of their independence. The minimum was essential. It was a fallacious argument that lenient admissions would bring their own punishments.

The proposition was put to the meeting and carried.

Mr. Hodgson moved and Mr. C. P. Ramaswami Aiyar seconded the following second part of the proposition, which was consequential:—

(2) "That in Regulation 166 (a) the words 'if he be satisfied as to their fitness' be omitted."

This was carried.

FINANCES OF THE UNIVERSITY.

The Senate appointed a committee on the 20th March last for inquiring into the desirability or otherwise of the introduction of new fees enhancement of existing fees for the examinations (of the

University) with special reference to the finances of the University, the committee being requested in connection with the above inquiry to report on the possibility of a retrenchment of the University expenditure and if necessary to formulate the requisite proposal therefor.

The committee submitted a report. In accordance with the report, Mr. C. P. Ramaswami Aiyar had given notice to move the following:—

“(1) That the Syndicate be requested to arrange as far as possible for the gratuitous superintendence of University examinations.”

“(2) That it be a recommendation to the Syndicate that no payment of travelling allowances be made to examiners in connection with journeys undertaken to attend meetings for the consideration of examination results.

“(3) That it be a recommendation to the Syndicate that the travelling allowances paid to examiners should be limited ‘to a single first-class railway fare each way’ and usual allowance for road and boat journeys, and that long distance allowances should be discontinued.

“(4) That it be a recommendation to the Syndicate that the rates of remuneration to examiners be reduced by 15 to 20 per cent.

“(5) That it be a recommendation to the Syndicate that the payment of fees for the valuation of answer books be limited to one examiner only in all cases.”

“(6) That in Regulation 166, before paragraph (a) be inserted, as a new paragraph, the words:—

“No candidate qualifying for Matriculation under the provisions of this Regulation shall be registered as a Matriculate or furnished with a Matriculation certificate until he has paid a fee of five rupees.”

“(7) (a) That Regulations 66 and 67 be amended so as to read as follows:—

“66. Applications for admission to Convocation in the form prescribed, must reach the Registrar

not later than ten clear days before the day fixed for Convocation. No candidate for a degree shall be admitted to Convocation until he has been registered. No candidate shall be registered until he has paid a fee of ten rupees.”

67. Any candidate for a degree who, having applied for admission to Convocation fails to appear, shall not be registered afresh until he has paid a like fee of ten rupees.

(b) That in Regulation 63, the words ‘who is not resident.....appearing in public’ and the words ‘with the permission of the Syndicate and’ be omitted.

“(8) That in Regulation 212, for the words ‘Rs. 25’ be substituted the words ‘Rs. 40’ in addition to the fee prescribed in Regulation 66.” Mr. Ramaswami Aiyar wished to make a general statement in the name of the committee explaining the reasons on which they arrived at the recommendations. He said that if the University went on at the present rate, they would be face to face with a deficit of Rs. 42,000 and odd. This had been ascribed to more than one reason. There were between 7,000 and 8,000 candidates for the School Final Examination. If the University conducted the examination, the proceeds would have amounted to a lakh of rupees. As a set-off, the Government gave a compensation of Rs. 28,000 and odd. If the Government made up their mind to give up the net profit which would be between Rs. 35,000 and Rs. 40,000 to the University it would cover the anticipated deficit. But that had not been done.

Another reason for increased expenditure was the shifting of the date of the examination and the introduction of a second Medical examination.

The way to meet the deficit was very simple. There were two methods diametrically opposed to each other. One of them was the increase of examination fees. That would have proved an efficient remedy if the Senate had thought it equitable or just. The Committee was of opin-

ion that the students would not bear the enhanced examination fees and that should be the last resort if other means were not found. He would refer first to the several sources of income to meet the deficit. One was the grant of compensation by Government for loss of income owing to the holding of S. S. L. C. test instead of Matriculation. But the grant was entirely in the hands of Government. Therefore the committee was compelled to adopt one expedient, viz., to impose a registration fee upon all students matriculated. The entire work in that connection was done at present gratuitously by the University. An imposition of Rs. 5 as extra fee on a student entering a College standard would not be felt as a hardship. The Committee also thought of levying a Convocation fee of Rs. 10. Such things were done in Calcutta and Bombay. They would fetch Rs. 16,500.

Another suggestion was to increase the Convocation fee in the case of persons taking their degree *in absentia*. That would fetch Rs. 4,500. The increased fee for M. A. degree examination from Rs. 25 to Rs. 40 would give the University Rs. 1500. The total increased receipts would come to Rs. 23,000 or Rs. 24,000. Other means were suggested, they formed proposals before the Senate, such as the levy of fees from students desiring to obtain marks or to have their papers revalued. On the expenditure there were things of a more controversial nature. The committee considered an alternative proposition, viz., to cut down the remuneration of the examiners or to increase the examination fees and they came to the conclusion that the alternative to cut down the remuneration of the examiners was preferable. The remuneration paid to examiners in this Presidency was much higher than in Calcutta and Bombay. The argument that if the fee was reduced, best men would not care to accept examinations, would not bear scrutiny. In other Presidencies reduced fees attracted competent men. Why not here? The committee, there-

fore, proposed to reduce the examiner's fees by 15 to 20 per cent. That would effect a saving of between Rs. 16,000 and Rs. 21,000. The Committee next considered the abolition of fees paid to Superintendents in examinations. In Bombay and Calcutta that work was performed voluntarily by the various affiliated Colleges honorarily. He hoped that in this Presidency also many Heads of Institutions would gladly arrange to do the same. It was for the house to accept or reject that proposal.

The Vice-Chancellor:—That would be quite impossible.

Mr. K. V. Rangaswami Aiyangar in answer to Mr. Hodgson and Mr. James said that it was he that gave the information to Mr. Ramaswami Aiyar and he was speaking for the College of the locality from which he came.

Mr. Ramaswami Aiyar continuing said that the committee next thought of retrenchment in the travelling allowance of examiners as explained in the proposition. That would come up to Rs. 13,100. Then the retrenchment in long distance allowances would fetch Rs. 8,000.

In conclusion he said that with the leave of the Vice-Chancellor he would move Sub-clause 6 relating to the Matriculation fee of Rs. 5, which did not adversely hit anybody.

Mr. K. V. Rangaswami Aiyangar seconded the motion.

Rev. Father Quinn objected to the procedure and said that the propositions should be moved *en bloc*.

Mr. Srinivasa Aiyangar suggested that the motion might be made in order.

Mr. Ramaswami Aiyar quoted Sub-clause 2 on page 94 for a change in the order of business.

Mr. Davies suggested it would be better to have a general discussion on the whole motion.

Vice-Chancellor:—The proposals might be made as a whole and he would at the end put them to the meeting part by part.

Lt.-Col. Giffard then moved the matter to go into a committee.

Mr. Hodgson seconded the motion which was carried.

A considerable discussion ensued till 7.30 P.M. in the committee and the further discussion on the subject was deferred till the next day the motion of the Hon'ble Mr. J. H. Stone.

The adjourned meeting of the Senate was resumed on Saturday the 31st Oct. 1914 with the Hon'ble Sir John Wallis, Vice-Chancellor, in the chair. The proposition brought forward by Mr. C. P. Ramaswami Aiyar in accordance with the report of the Committee appointed by the Senate to inquire into the desirability or otherwise of the introduction of new fees and enhancement of existing fees for certain examinations, to report on the possibility of a retrenchment of the University expenditure, and to formulate the requisite proposals, was further considered by the Senate in Committee.

The following is the result of the discussion of the several propositions and recommendations in Committee :—

The Hon'ble Mr. J. H. Stone suggested that the two parts of the proposition, one relating to the increase of University income and the other relating to the diminution of expenditure might be taken up separately. If that was done, he said, the discussion in the House would be facilitated.

Mr. B. Hanumantha Row proposed "that having regard to the financial embarrassment of the Senate, the Syndicate be requested to apply to the Governments of Madras, Mysore, Travancore and Cochin to give the University all the net profits of the final examination in connection with the Secondary School Leaving Certificate.

Mr. G. A. Natesan, in seconding the same, said that the Registrar had calculated the loss on account of S. S. L. C. at Rs. 50,000.

Mr. Middlemast disagreed with Mr. Natesan and said that according to the Syndicate's calculation the loss was Rs. 24,000 and the Government gave a grant of Rs. 24,000.

Mr. C. P. Ramaswami Aiyar pointed out that at the time the recommendation was made by the Syndicate the number of candidates for the examination was less.

Vice-Chancellor :—Let us leave controversial matters apart. Let us ask Government to give us help to make our financial position sound.

Mr. S. Srinivasa Aiyangar said that Government must come to their rescue. It was quite sufficient that the Senate requested Government to help them with sufficient funds. The Senate need not claim anything as compensation.

Mr. Stone then suggested that the proposition might be worded as follows :—"In view of the development of the work of the University and the increased need for funds the Syndicate be requested to ask Government to reconsider the arrangements under which they compensate the University for the loss incurred owing to the introduction of the S. S. L. C. Scheme, so as to enable the University to meet the charges with their ordinary income."

This was carried.

Rev. Father Quinn proposed and Col. Giffard seconded that a further Committee be appointed to investigate the working of the finances of the University.

The Vice-Chancellor pointed out that such a proposition would entail the entire revision of the University Regulations. They must confine themselves to the proposition before the House. The motion was lost.

Mr. C. P. Ramaswami Aiyar then moved that Regulations 66 and 67 be amended so as to read as follows :—

'66. Applications for admission to Convocation in the form prescribed, must reach the

Registrar not later than ten clear days before the day fixed for Convocation. No candidate for a degree shall be admitted to Convocation until he has been registered. No candidate shall be registered until he has paid a fee of ten rupees.'

'67. Any candidate for a degree who, having applied for admission to Convocation fails to appear, shall not be registered afresh until he has paid a like fee of ten rupees.'

The motion was carried.

Mr. Hodgson then proposed that a capitation fee of Rs. 4 be collected from every undergraduate of the University.

Mr. A. Chatterton seconded and Mr. P. Lakshminarasu supported the proposition.

Mr. C. P. Ramaswami Aiyar objected to the proposition and said that the subject should be approached from the point of view of the Committee before bringing forward a Resolution. It was outside the scope of the Committee's report.

Mr. K. V. Rangaswamy Aiyangar strongly opposed the proposition and said that in the matter of taxation one thing was important. The burden must equitably fall on the people.

Mr. Alfred Chatterton referring to the reduction of Examiners' fees said that it would be a retrograde step.

Mr. K. V. Rangaswamy Aiyangar referred to a recent reduction in Examiners' fees in certain examinations. It did not affect the Examiners very much.

Mr. J. H. Stone understood that the question before them was whether to reduce Examiners' fees or have capitation fee.

The Hon'ble Mr. T. V. Seshagiri Aiyar agreeing with Mr. K. V. Rangaswamy Aiyangar said that if Mr. Hodgson's proposition be accepted, they would be considered as acting on a selfish motive.

Dewan Bahadur L. A. Govindaraghava Aiyar urged that the deficit in the funds of the Univer-

sity was only Rs. 42,000. The capitation fee could fetch Rs. 60,000 which was much more than the required amount. The question of capitation fee might be reserved for another occasion when the Syndicate required more money. Mr. Hodgson's proposition was put to meeting and lost.

Mr. C. P. Ramaswami Aiyar then moved that Regulation 68 be amended to read as follows :—

"A candidate for a degree may on payment of a fee of Rs. 25 be admitted *in absentia* to that degree at the annual Convocation in November or December."

Mr. Ramaswami Aiyar said that this would effect a saving of Rs. 1,200.

This was carried.

Mr. Ramaswami Aiyar next moved the proposition which was to increase the fee from Rs. 25 to Rs. 40 to enable a graduate in Honours, without further examination, to proceed to the degree of M. A. after the lapse of two years from the date of his having passed the B. A. (Honours) degree examination. He said that this would bring in Rs. 1,500 to the University.

The motion was carried.

Mr. S. Srinivasa Aiyangar moved the following amendment :—

"That, in agenda No. VI, at the end, the following words be added :—'That the Syndicate be requested to treat the interest on the accumulated funds as part of the ordinary University receipts and available to meet the ordinary University expenditure : to take the necessary steps to rescind any previous allocation thereof, and to provide only for such a number of University Lectureships and Studentships as may be possible with reference to the finances of the University for the time being.'"

The Vice-Chancellor in explaining the position said that the six lakhs of rupees which were the accumulated savings of fifty years' work of the

University were set apart to be added to the grant from the Government of India for the development of higher teaching in the University. It was the settled policy of the Syndicate to treat those six lakhs as an endowment, the income from which was to be applied for higher teaching in the University.

Mr. Srinivasa Aiyangar said that the annual income amounted to Rs. 23,740 all of which was not spent in higher teaching.

The Vice-Chancellor: If you earmark it for the current expenditure it will not be available for higher teaching.

Mr. Srinivasa Aiyangar said that the object of his amendment was that that income might meet the current expenditure including the charges for lectureships and studentships.

The Vice-Chancellor admitted that the interest was not at present employed for the purpose which it was intended to serve. But when opportunity presented itself, they should be able to devote the interest.

Mr. Srinivasa Aiyangar pointed out that the interest on Rs. 23,000 was not utilised for current expenses and wished to include that sum in the income of the University. He added that the cost of higher education would not suffer in the least.

Mr. C. P. Ramaswami Aiyar opposed the motion to utilise the income from interest or Rs. 600,000 for current expenditure; because the expenditure for studentships and lectureships were budgeted for at Rs. 27,000 and odd. The interest was only Rs. 23,000.

The amendment was lost.

Mr. Ramaswami Aiyar then moved to insert the following as a new paragraph before paragraph (a) in Regulation 166:—

"No candidate qualifying for Matriculation under the provisions of this regulation shall be registered as a Matriculate or furnished with a

Matriculation certificate until he has paid a fee of five repees."

Mr. J. P. Cotelingam moved an amendment that the registration fee be Rs. 3 instead of Rs. 5.

Mr. G. A. Natesan seconded the amendment which was put to the meeting and lost.

The original proposition, that the Registration fee be Rs. 5, was carried.

Passing on to the expenditure side of the proposition Mr. Ramaswami Aiyar moved "That it be a recommendation to the Syndicate that the rates of remuneration to Examiners be reduced by 15 to 20 per cent."

Mr. Hodgson in seconding the proposition said that he was prepared to make a self-denying ordinance.

Mr. B. Hanumantha Row in supporting the proposition expressed his opinion that the Examiners' fee was a little too high and might be reduced.

The motion was carried.

Mr. Ramaswami Aiyar then moved "That it be a recommendation to the Syndicate that no payment of travelling allowances be made to Examiners in connection with journeys undertaken to attend meetings for the consideration of examination results."

He said that prior to the change of dates of examinations, no travelling allowance was paid to Examiners when they attended meetings to pass the examination results.

The Vice-Chancellor said that owing to the change in the dates of examinations, the Examiners were out of Madras. Prior to the change they were in Madras, and they were able to attend the meetings without incurring any expense. Further it was not compulsory to attend.

Mr. Chatterton said that if the proposition was carried it would seriously affect the University work.

Mr. Stone suggested that the matter might very well be dropped, because it was quite impossible to get on without the travelling allowances,

Mr. Ramaswami Aiyar would not give up the case with reference to that matter but he was willing to withdraw the motion without prejudice to his bringing it up again if necessary.

This motion was by leave withdrawn.

Mr. Ramaswami Aiyar next moved "That it be a recommendation to the Syndicate that the travelling allowances paid to Examiners should be limited to a single first class railway fare each way and the usual allowance for road and boat journeys, and that long distance allowances should be discontinued."

He said that Examiners drew a long distance allowance of Rs. 4 for over 100 miles. It was unnecessary.

Mr. Hodgson said that even with that Rs. 4 it was not possible for Examiners to travel in 1 class. This was another self-denying ordinance. They had already voluntarily surrendered a large share of examiners' fees. They were further asked to forego this long distance fee also.

Mr. K. R. Guruswami Aiyar moved to apply this principle to Fellows of the Senate and members of Boards of Studies.

Mr. G. A. Natesan in seconding the amendment said that nobody should make profit out of the allowances.

Mr. Stone said that a first class allowance would meet the expenditure fairly enough.

Mr. Guruswami Aiyar's amendment was lost.

Rev. G. Pittendrigh moved to substitute for "a single first class railway fare" the words "the actual amount paid as railway fare" in the original proposition of Mr. Ramaswami Aiyar. The object of his amendment was to prevent persons travelling in third class from getting first class railway fare.

The amendment was carried. The substantive motion as amended was also carried.

Mr. Ramaswami Aiyar next moved "That it be a recommendation to the Syndicate that the

payment of fees for the valuation of answer books be limited to one examiner only in all cases."

He said that two examiners need not value the same set of answer books. If the proposition was carried, it would effect a saving of Rs. 2,000.

Mr. J. H. Stone said that Honours examination should be conducted with extreme care. The present system of two Examiners valuing the same paper was of great value. They had just then reduced the Examiners' fees. It was better that Honours papers were valued by two Examiners. Mr. F. E. Corley supported the view.

The motion was lost.

Proposition No. 1 of Item VI on the agenda, relating to the gratuitous superintendence of University examination was dropped by the mover.

All the propositions in Item VI of the Agenda had now been considered by the Senate in Committee. The propositions as passed by the Senate in Committee would be placed before the next meeting of the Senate for approval.

The House now went out of the Committee and resumed into the Senate (ordinary.)

UNIVERSITY PROFESSOR OF INDIAN ECONOMICS.

The Hon'ble Mr. J. H. Stone moved "that the salary of the University Professor of Indian Economics be increased from Rs. 10,000 a year to the sum of £ 1,000 a year (Rs. 1,250 per mensem) the additional fund for so doing amounting to Rs. 15,000 being provided by the University."

In doing so he said that at first the Syndicate did not include the remuneration for the Professor of Economics. Afterwards it was thought desirable to appoint such a Professor in consonance with the general advancement and prosperity of the country. The Syndicate failed to secure a suitable candidate for Rs. 10,000 a year. The candidate should be an economist of

special repute in Europe. The success of the Syndicate's offer of £1,000 a year to the appointment was indicated by the fact that already an economist of decided repute had applied for the post.

The motion was duly seconded and carried.

UNIVERSITY PROFESSOR OF INDIAN
HISTORY AND ARCHEOLOGY.

The Hon'ble the Vice-Chancellor then moved the following Resolution when the Hon'ble Mr. J. H. Stone took the chair:—"Mr. R. A. Narasimhachariar who was appointed as University Professor of Indian History and Archæology not having accepted the appointment owing to considerations of health, the Syndicate recommends that the appointment of Mr. S. Krishnaswami Iyengar as University Professor of Indian History and Archæology with effect from 1st November 1914 be sanctioned."

He said that Mr. Krishnaswami Iyengar was very well known for the good work he had done and he, the speaker, was glad to be able to say that that gentleman had been recommended by Mr. Vincent Smith and another eminent Professor, who were the two most competent authorities to speak upon the subject. There were other candidates who had claims in certain ways. But the Syndicate came to the conclusion that Mr. Krishnaswami Iyengar was best fitted for the post.

Mr. C. Ramalinga Reddy moved to add the words "on the same salary as that adopted for the University Professorship of Economics," at the end of the original Resolution. He said that there should be no consideration of race bar in the matter, as there was in Government service; there should be one salary for all University Professorships.

The Vice-Chancellor said that there was already a University Professor Mr. Collins to whom the amendment did not apply.

Mr. Ramalinga Reddi admitted that, but the same salary should be given to all University Professorships as far as possible. There ought not to be one salary for Indian Professors and another for European Professors.

The Vice-Chancellor pointed out that the question before the House was whether the Senate was prepared to confirm the selection of Mr. Krishnaswami Iyengar. The question whether his salary should be this, or that was alien to the motion, though it was competent at any time to Mr. Ramalinga Reddi to propose the motion to alter the salary. The amendment was not germane to the motion before them and it was out of order.

The amendment was ruled out of order and the original motion was carried.

UNIVERSITY READERS IN TELUGU AND
MALAYALAM.

Mr. W. H. James moved that the appointment of Mr. B. Seshagiri Row, M. A., and Mr. T. Ramalingam Pillai, M. A., as University Readers in the philology of Indian languages, the former for Telugu and the latter for Malayalam (on a fixed monthly salary of Rs. 250 together with any pensionary or provident fund contributions payable by each), be sanctioned for a term of not less than the remainder of the period of two years from July 1914. Mr. James said that in anticipation of sanction to the two additional Readers the Syndicate invited applicants for the posts by a notification in the Fort St. George Gazette, and that from among the applicants the Syndicate selected these two candidates as being the most suitable, and nominated them for the appointments. The new Professor of Philology was asked whether the four gentlemen who had been appointed as University Readers were sufficient to do the work; and he said it would be better if two more Readers were appointed whose mother-tongue was Telugu and Malayalam respectively. Hence the Syndicate made up its

mind to make this recommendation to the Senate. Mr. B. Seshagiri Row was 28 years of age, was a lecturer in English in the Maharaja's College, Vizianagram, and also taught the History of Telugu language and literature for the B. A. and M. A. classes. He took his B. A. degree in 1905 and M. A. in 1909 when he was 22 years old. He appeared to be a promising gentleman. Mr. T. Ramalingam Pillai was a resident of Travancore. He took his B. A. degree in 1909 and M. A. in 1914 in Malayalam. He had done a good deal of work in Malayalam and showed great promise of development in connection with the literature of that language.

Rao Bahadur Ramanujachariar of Vizianagram seconded this motion.

Mr. Davies opposed this motion on the ground that Mr. Ramalingam Pillai was a non-Malayalee gentleman. He was a Tamilian by birth. There were many gaps throughout his University career. There were other candidates who had taken high Malayalam honours and had not gaps as Mr. Ramalingam Pillai had in his University career. He would therefore move to omit his name from the Resolution.

The Vice-Chancellor said that he would like to put those names separately to vote.

Mr. G. A. Natesan said that the Syndicate appointed a competent Committee to discuss the merits of applicants and the Syndicate made the selections after due consideration. That a man was not by birth a Malayalee was no disqualification for the appointment of the University Reader. Professor Max Muller was a German still his translations were accepted by eminent persons and he was regarded as a great authority in Sanskrit. There was no harm if Mr. Ramalingam Pillai was a Tamilian.

Mr. K. V. Rangaswami Aiyangar in support of the Syndicate's recommendation said that from his personal knowledge of Mr. Ramalingam Pillai for the last 13 years he could say that the

selection made by the Syndicate was a very wise one. Mr. Ramalingam Pillai's forefathers settled in Malayalam three generations ago. For every practical purpose they were using Malayalam in Travancore. Could Travancore be called a Tamil country? Mr. Ramalingam Pillai possessed a bilingual qualification, namely, in Tamil and Malayalam. It was peculiarly appropriate that he should know Tamil, for 90 per cent. of Malayalam words were taken from Tamil. Malayalam Grammar was largely based upon Tamil Grammar. The Malayalam University Reader must necessarily be conversant with Tamil, for that would facilitate him in dealing with the comparative relations of the two languages. With regard to his long delay in passing M. A., it was only last year he took up educational work and could find time to apply for the higher examination. Further the delay in taking M. A. Degree was no disqualification for the post. The two gentlemen who rose to the highest position in the legal profession in Madras took a long time in passing B. L.

Mr. F. S. Davies said that he referred to the long gaps between Matriculation, First-in-Arts and B. A. examinations in the career of Mr. Ramalingam Pillai.

Mr. K. V. Rangaswami Aiyangar pointed out that Mr. Ramalingam Pillai took the second place in second class M. A. He had ample promise of his literary taste. He had been contributing to various magazines. Failure in University examination should not be taken as a criterion to judge of a person's merit. The mathematical prodigy of Madras was ploughed by the Madras University in Mathematics.

Mr. Hodgson also opposed the appointment of Mr. Ramalingam Pillai who, he said, had failed in M. A. He asked whether it was desirable to appoint him as a Reader in the Philology of Indian languages.

Sir C. Sanskaran Nair expressed his opinion that Mr. Ramalingam Pillai was not the best

available candidate. The matter should be referred to a fresh Committee consisting of Malayalam members.

The proposition "that the appointment of Mr. Ramalingam Pillai as University Reader in the philology of Indian languages be sanctioned" was lost by 27 against 29 votes.

Mr. C. Ramalinga Reddy then opposed the appointment of Mr. B. Seshagiri Rao, as University Reader in the philology of Indian languages. In the matter of selecting that gentleman the Syndicate voted one way and the special Committee appointed for the purpose voted another way. The decision of the Syndicate was shocking the Telugu world. Either the question should be referred back to the Syndicate or another candidate should be nominated. Ramakrishna Kave had made great researches in Telugu. His candidature was set aside in favour of Mr. Seshagiri Rao. The Syndicate's nominee was not in his opinion, superior to Mr. Ramakrishna Kave.

Mr. G. Venkataranga Rao seconded.

The Vice-Chancellor, wishing to speak on the subject, left his seat which was now occupied by the Hon'ble Mr. Stone. He said that the responsibility of the selection had been left to the Syndicate. Without grave reasons the Senate should not set aside the Syndicate's nominee. Readers were appointed because the University could not find a satisfactory Professor of Dravidian languages trained on modern lines. They were fortunate in securing a Sanskrit Professor capable of training the Readers already appointed on modern lines and Dr. Collins was one of the members of the Committee who made the appointments. After personal examination of the candidates, Dr. Collins found that Mr. Seshagiri Rao had shown much greater interest in that branch of work and greater promise of effective work on intended lines than any other candidate. Their business was to train up competent men for the future. Mr. Seshagiri Rao was

only 28 years old. They should find out men who would develop the best skill and who would do the best work. Dr. Collins' opinion on that point was deserving of very great weight, or far greater weight than the opinion of gentlemen who were not specially versed in that branch of study. He, the speaker, would ask the Senate to reject the motion to refer the question back to the Syndicate and to confirm the appointment. He then resumed his seat.

Rao Bahadur Ramannujachariar strongly supported the appointment of Mr. Seshagiri Rao who had done very great work in Telugu.

The amendment to refer the question back to the Syndicate was lost.

The motion to sanction the appointment of Mr. Seshagiri Rao was carried.

B. A. DEGREE EXAMINATION IN 1915 & 1916.

Rev. Dr. Skinner moved that certain alterations be made in the Regulations with a view to continuing the B. A. Degree examination under the old Bye-laws in 1915 and 1916. In that connection he wished to add at the end of the second paragraph of the Transitory Regulation, No 416, the following words:—

"Candidates for the B. A. Degree examination under the existing regulations in the years 1915 and 1916 shall not be required to produce any certificates of attendance at an affiliated College, but shall be required to pay the following enhanced application fees:—

English Language Division	... Rs. 18
Second Language do.	... „ 12
Science Division do.	... „ 24

Dr. Skinner said that there was a very large number of students from every part of the country who had failed to pass the B. A. Degree examination under the regulations. As they stood, the students had no further opportunity of taking the degree. There would be a large amount of disappointment and hardship. In very many cases the prospects depended upon

students taking their degree. The Syndicate thought it desirable to hold the examination for two more years, viz. 1915 and 1916. The additional fee was fixed to meet the extra cost of holding the examination.

It was believed that candidates would not object to pay the extra fee in return for the very generous concession.

Mr. S. Srinivasa Aiyangar seconded the proposition.

The motion was carried.

MEDICAL DEGREE EXAMINATIONS.

Lt. Col. Giffard then moved that a certain transitory regulation be adopted and substituted for the one passed by the Senate on March 21, 1914, to enable candidates that appeared for the Medical Degree examinations under the old Regulations to appear for those examinations under the new Regulations. The present proposal was to further remove hardships in the case of such candidates, without unduly prolonging their course.

Dr. Chandrasekhar seconded the proposition which was carried. In answer to Mr. C. P. Ramaswami Aiyar, Lt. Col. Giffard said that these alterations would involve no fresh costs to the University.

GRADUATES ELIGIBLE FOR ELECTION AND ENTITLED TO VOTE.

Mr. Middlemast moved to substitute in Regulation 134 for the sentence "the only persons eligible for election are graduates whose names are on the Register at the date of the Notification published in accordance with Regulation 131," the following sentence:—

"Those graduates only whose names are on the Register at the date of the Notification published in accordance with Regulation 131 shall be eligible for election and entitled to vote."

He said that the Regulation was concerned with election of members of the Senate by gra-

duates. Registered graduates formed the electorate and were also the persons to be elected. There was a slight difficulty with regard to the meaning of registered graduates. It was completely defined in the case of the voter. It was not so in the case of those eligible for election. To make the definition complete and to show that the definition was the same in both cases the proposition was brought forward and this embodied the practice adopted for a long number of years.

Mr. C. P. Ramaswami Aiyar seconded the proposition.

Mr. Srinivasa Aiyangar thought that the Resolution was not in order. He did not know whether Mr. Middlemast had framed his Resolution with reference to Section 7 on pages 63 and 69 of the Regulations. The motion was *ultra vires*. They could not pass a resolution which was in violation of the Statute. The Regulation dealt only with the voter and did not deal with anything else. He therefore moved that the matter be referred back to the Syndicate.

Mr. Govindaraghava Aiyar said that the proposition would not infringe the rules under Section 7. The Section contained rules to guide the election on a particular occasion.

Mr. K. V. Rangaswamy Aiyangar supported the amendment of Mr. S. Srinivasa Aiyangar.

The amendment was put to the meeting and lost and the proposition was carried.

REVISED SYLLABUS IN PHYSICS.

Mr. Jones next moved the substitution of a revised syllabus in Physics for the existing syllabus in Regulation 197 under II-B, Physical Science. He said that the alterations, if carried, would be an improvement in the existing syllabus. Those alterations were recommended by the Board of Studies.

The proposition was seconded by Mr. Middlemast and carried.

Mr. Jones next moved:—

"That in Regulation 203, the following words be added to the last sentence":—

"And if he appears for the examination in Branch II, he shall be exempted from examination in the subsidiary subject, and shall be credited with the percentage of marks which he obtained in that subject in the B. A. Degree Examination."

This was seconded by Mr. Lakshminarasu and carried.

COURSE FOR SANSKRIT LANGUAGE AND LITERATURE.

Dr. Mark Collins moved the following alterations in the course of Sanskrit Language and Literature and certain consequential alterations in the examination papers and the time-table:—

That in revised Regulation 197 under Group (vi)—'Languages other than English' for the existing course for 'Sanskrit Language and Literature' under (1)(a) *Sanskrit (main)* the following revised course be substituted:—

(a) Illustrative extracts from Vedic Mantras Brahmanas, Aranyakas and Upanishads together with suitable selections from Sutra Literature.

(b) Selections from the Dharmasastras and from the Itihasa and Kavya Literature in prose and verse. A knowledge of Alamkara-sastra will be required sufficient for the correct understanding of native commentators.

(c) Sanskrit Grammar treated historically and comparatively in accordance with a syllabus (to be prepared.)

(d) Translation from and into Sanskrit.

(e) General history of Sanskrit Literature.

(f) Early Indian History."

Mr. Prendergast seconded the resolution.

Rao Bahadur Ramanujachariar pointed out that the course should not be made unusually stiff so as to scare away Sanskrit students who were already very few. Vedic Grammar and Vedic Sanskrit was obsolete.

Mr. K. V. Rangaswamy Aiyangar said that the syllabus was rather an ambitious and "difficult" one. He would like to know the reason for the omission of dramatic literature. The expression should be "*Kavya* and *Nataka* literature."

Dr. Collins said that it was unnecessary to put it like that. The expression *Kavya* literature included *Nataka* literature.

Mr. K. V. Rangaswamy Aiyangar said that it did not.

On further consideration Dr. Collins said that there was no harm in adding an extra word *Nataka*.

The proposition as amended was put to the meeting and carried.

NATURAL SCIENCE.

Mr. B. Hanumantha Rau moved for certain additions in Regulations 209 and 210 relating to the Natural Science to bring them on a line with the Regulations in II-A and II-B relating to Physical Science. A minimum was laid for passing the laboratory examination in the main subjects. The object of the proposition was to introduce the words "Laboratory note books" in the time-table wherever necessary.

Mr. Ramunni Menon seconded the proposition which was put to the meeting and carried.

TIME-TABLE FOR ENGLISH LANGUAGE & LITERATURE.

Mr. J. G. Tait proposed certain alterations in the time-table for Branch VII (English Language and Literature) and in marks.

Mr. Srinivasa Aiyangar pointed out that three hours paper was unnecessary for Gothic.

He added that the History of English language and literature should not be omitted from the time-table and *Essay* should not be substituted. In this view he was supported by Mr. C. P. Ramaswami Aiyar, Messrs. Natesan, Hodgson, and Mr. K. B. Ramanathan urged that all that was wanted was the appreciation of English literature. An essay would certainly insist upon the

candidate knowing thoroughly the history of English language and literature. At present, the study of that history was only scrappy.

Mr. Stone said that essay covered the linguistic part of the course.

The Resolution was put to the meeting and carried.

LAW STUDENTS' CERTIFICATE OF ATTENDANCE.

Dewan Bahadur L. A. Govindaraghava Aiyar then moved certain alterations and additions in Regulations 224, 231, 390 (1) and 391 relating to the courses of law students, with a view to remove the compulsion of producing attendance certificates with reference to particular subjects. The Principal of the Law College was best able to judge whether a student was fit to appear for the examination or not. If he was of opinion that his attainments and general knowledge of the subjects was a sufficient guide to enable him to appear for the examination, then, it was unnecessary to make a student produce a certificate that he had attended three-fourths of the working days in each of the subjects. It was sufficient if he produced a certificate that he had attended three-fourths of the working days of the College. To meet the hardship worked by the present rules the Syndicate made this proposal after consultation with the Principals of the two Colleges.

Mr. J. H. Stone seconded the proposition which was put to the vote and carried.

The meeting was then adjourned to the 18th proximo.

An adjourned meeting of the Senate was held on the 18th instant in the Senate House with Sir John Wallis (Vice-Chancellor) in the chair. More than sixty-five Fellows were present.

Before proceeding with the business of the meeting the Vice-Chancellor read a letter from the Military Secretary to H. E. the Governor requesting him to invite all the Fellows of the University and their wives and the Registrar to

an "At Home" that might at 9-30 on behalf of Her Excellency Lady Pentland, as it was difficult for him to issue the invitations in time.

The business of the meeting commenced and Mr. K. V. Rangaswamy Aiyangar requested the Vice-Chancellor leave to move that the Resolution XXIX (1) standing in his name be taken along with proposition 25 (1) standing in the name of Mr. K. Ramanuja Chariyar, as they related to the same subject.

Mr. C. P. Ramasamy Aiyar seconded the motion which was carried.

REVISED REGULATIONS FOR B. E. DEGREE EXAMINATIONS.

Mr. W. H. James moved that certain revised regulations for the B. E. Degree examination be substituted for the existing regulations and that the revised Regulations come into force for the examination of 1917. They embodied considerable changes in the mechanical branch of the subject and in electrical engineering. The alterations were made to bring certain existing regulations into line with considerable changes that had recently taken place. They would come into force only in 1917, so that there would be three opportunities for appearing for the examinations under the existing system and students would not be put to any hardship by such changes.

Mr. A. B. Strange seconded the proposition which was put to the meeting and carried.

UNIVERSITY LECTURES.

Mr. Middlemast moved that sanction be given under revised Regulation 395 for certain additional ordinary University lectures for the year 1914-15. He said that in March last the Senate sanctioned those lectures to be delivered by Mr. P. F. Fyson in the beginning of 1914. But Mr. Fyson fell ill and had to go home. He would come back at the end of this year and would be able to undertake the delivery of those lectures at the beginning of next year. They would be on the Geographical Distribution of Plants with special reference to India.

in Group v. The Syndicate acting upon that, had placed the matter before the Senate. But the Committee appointed to report on the advisability of affiliating this College had reported that the College might be affiliated in the said group. There was no necessity for a first grade College at Mannargudi when there were first grade Colleges in Kumbakonam, Trichinopoly, etc.

The ultimate authority in the matter of affiliation was Government and the Senate could only make a recommendation.

Mr. B. Hanumantha Rau seconded the proposition.

Mr. G. A. Natesan in opposing the proposition said what they should reasonably expect was a guarantee that everything necessary would be fulfilled at a reasonable time. The Committee recommended affiliation. The location of the College at Mannargudi would not be injurious to the interests of education. It might be unnecessary but not undesirable. There should be a number of first grade Colleges throughout the Presidency. The Findlay College should be granted affiliation. It was a matter for regret that the Director of Public Instruction recommended not to grant affiliation. The best way was to refer the matter back to the Syndicate.

Dr. Swaminathan was also for affiliation of this College.

Mr. Jones opposed the motion to refer it back to the Syndicate.

The Vice-Chancellor said that the Senate should record its opinion. If they did not agree with the opinion of the Syndicate they must simply reject the proposition.

Mr. Natesan said that, if so, he would simply oppose the proposition.

The Vice-Chancellor said that the Senate was simply asked to express its opinion.

Mr. Hodgson pointed out that the Senate had not got sufficient information to go on. He would therefore ask for a further enquiry.

Mr. S. Srinivasa Aiyangar said that the Resolution was not in order. He hoped that the Resolution was not intended to prevent unhealthy competition.

The Hon'ble Mr. Stone objected to the affiliation of the Mannargudi College as it was very near Kumbakonam College which was already sparsely attended. If Findlay College was affiliated it would be still more sparsely attended. It was not good business to set up another College in Tanjore District in contradiction to Kumbakonam College. The Colleges in Trichinopoly were at a greater distance.

Rev. Mr. Macphail in voting for the affiliation of the Findlay College said that the University should ever be prepared to raise second grade colleges to the position of first grade colleges as far as possible.

The proposition was put to vote. 32 voted for and 28 against affiliation.

TEXT-BOOKS FOR NON-DETAILED STUDY.

Mr. K. Ganapathi Aiyar next moved to omit the words "of which the candidates shall choose two" in regulation 185, Section II, second para, and substitute the following:—

One of which shall be taken from text-books prescribed for non-detailed study in English and the other two shall be taken from text-books prescribed for non-detailed study in the Vernaculars.

Mr. K. V. Rangaswamy Aiyangar seconded the motion.

Sir V. C. Desikachari said that such a subject should be brought before the Board of Studies.

Mr. K. V. Rangaswamy Aiyangar asked to what Board of Studies could the subject be referred.

Mr. K. B. Ramanatha Aiyar said that there was no need to buttress the non-detailed study in English in this manner.

Mr. V. S. Srinivasa Sastri requested, for reasons explained, to throw out this proposition and to wait till he brought out his own.

Rev. G. Pittendrigh said that the matter was discussed by the Board of Studies in English and it was appropriate that the Senate should discuss the matter.

The proposition was put to the meeting and carried.

MINIMA FOR COMPOSITION IN TWO DIFFERENT PLACES.

Mr. Ganapathi Aiyar next moved that in Regulation 187 the paragraph beginning with (4) be omitted. He said that there was no necessity for two minima for composition in two different places.

Mr. P. Lakshminarasu seconded the proposition which was carried.

PASSING INTERMEDIATE EXAMINATION IN PARTS.

Mr. Ganapathi Aiyar next moved "that in the opinion of the Senate it is desirable to allow candidates for the Intermediate examination in Arts who do not intend to study for the B. A. Honours Degree examination to pass it in parts. He said that there was an amendment in the name of Mr. Ramalinga Reddy to omit the words "who do not intend to study for the B. A. Honours Degree examination" and he accepted the amendment. He said that when the final examination was passed in parts, the Intermediate examination also might be passed in parts.

Mr. J. P. Cotelingam in seconding the proposition said that the course for the Intermediate examination was heavy and put a great strain on the candidate who had obtained the School Final Certificate. The proposition, if carried, would give great relief to the Intermediate candidates.

Mr. Zumbro supported the proposition.

Rev. E. M. Macphail opposed the proposition. He said that there was a deliberate attempt to lower the standard of the Intermediate examination by enabling candidates to pass it in parts. There was an attempt to carry the system of passing in parts to an absurd extent. The attempt was to make it easier to get through to the B. A. Degree examination.

Mr. Hodgson also opposed the motion and said that a student who had passed some of the subjects and who had yet to pass some subjects only, would be idling his time.

Mr. G. A. Natesan supported the proposition on the ground that while the School Final and B. A. examinations were allowed to be passed in parts, there should be no restriction for the Intermediate alone.

Messrs. S. Krishnaswamy Aiyangar and S. Srinivasa Aiyangar supported the proposition. Mr. S. Srinivasa Aiyangar added that if this proposition was carried he did not wish to move his proposition.

The Hon'ble Mr. Stone in opposing the motion said that the Intermediate examination partly tested the capacity of the student to continue to read for the B. A. Honours or Pass course and partly tested his knowledge. Of course the burden of that examination was a heavy one and the English part of the examination was decidedly over-loaded—the theory in English language. It might with advantage be deliberately cut down.

The proposition was put to the vote and carried, 34 voting for and 26 voting against.

Mr. Ganapathi Aiyar left it to the Syndicate to make the consequential regulations and requested permission to withdraw the consequential Resolutions standing in his name.

The Vice-Chancellor said that the Syndicate would frame regulations to give effect to the Resolution just now passed.

HONOURS COURSE.

Mr. K. Ramanujachariyar then moved a Resolution for the alteration of the rules regarding the Honours Course examination. He pointed out that certain anomalies existed in the regulations regarding the Honours examination. In the first place whereas limit of time was fixed for the Intermediate and B. A. examinations the Honours candidates have to complete their course under whatever circumstance within the prescribed time. This principle could not be maintained unless it was contended that lapse of time dimin-

Mr. J. P. Cotelingam seconded the motion which was put to the meeting and carried.

A DONATION TO THE UNIVERSITY.

Dewan Bahadur L. A. Govindaraghava Aiyar moved that the Senate accept the offer made by Mr. K. Raghavachariar, Honorary Presidency Magistrate, Madras, of a donation of Rs. 1,000 towards the expansion of the activities of the University. He said that Mr. Raghavachariar imposed no conditions as to how the money was to be utilised. The Senate could accept the offer with thanks.

Mr. Middlemast seconded the proposition which was put to the meeting and carried.

'CARMICHAEL' AND 'INNES' PRIZES.

Mr. Govindaraghava Aiyar next moved that certain alterations be made in the terms of the award of the 'Carmichael' and 'Innes' Prizes. He said that at present there were four branches of the M. L. Degree examination and it was not possible to compare the standards of excellence shown by the candidates in the various branches. It was not possible to say that a particular candidate who passed in one branch was superior or otherwise to the candidate who passed in another branch. The rules containing the original terms of the award were impracticable. It was not mentioned in the rules in connection with several prizes that the Senate had power to change the rules from time to time. It was considered by the Syndicate that only the power was vested in the Senate to administer the funds, but in the circumstances now arising it might be possible to change the terms of the award so as to make them more conformable to the conditions that at present obtained. He then explained the impracticability of the terms of the award as they stood at present.

Mr. C. P. Ramaswamy Aiyar seconded the proposition.

Dr. Swaminathan wished to know the powers of the Senate in respect of those changes.

The Vice-Chancellor said that he was not prepared to answer that question. There were several branches of the M. L. examination and it was impossible to carry out the original terms of award under the existing conditions.

Dr. Swaminathan then moved that the matter might be referred to the Faculty of Law for consideration. The object of those prizes was to encourage the study of law and to commemorate the great men in whose names those prizes had been founded. The proposal as it stood would assume that the Senate had some power to modify the award. Neither the Faculty of Law nor the Board of Studies in Law had been consulted.

Mr. S. Srinivasa Aiyangar seconded the amendment.

Mr. Govindaraghava Aiyar had no objection to that course being adopted. He was anxious that as good a use of the funds should be made as possible. The "Carmichael" Prize was founded by the Hon'ble Justice Muthuswamy Aiyar and the "Innes" Prize was founded in pursuance of a public meeting held in the Pachaiyappa's College. They should not deviate from the original intentions of the donors. Seeing that it was difficult to work out the original terms, it appeared to the Syndicate it would be within the power of the Senate to so modify the terms that the original intention might be given effect to.

The motion to refer the matter back to the Faculty of Law was carried.

AFFILIATION OF MADRAS COLLEGE FOR WOMEN.

Mr. Govindaraghava Aiyar next moved "that the Senate record its opinion that the application from the Director of Public Instruction, Madras, for the affiliation of the Madras College for Women in Group iii of the Intermediate Course may be granted by Government with effect from the beginning of the academic year 1914-15." He said that Latin and Sanskrit would be the classical languages taught and Malayalam, Tamil and Telugu the vernacular languages. The

management would be by Government so that the funds of the College were assured. The College supplied a real felt want and they had been looking forward for such an institution.

Mr. S. Srinivasa Aiyangar seconded.

The Hon. Rev. G. Pittendrigh moved to insert figures 1915-16 for 1914-15 in the proposition. The object of his amendment was to make the affiliation take effect next year, not to have a retrospective effect. There was no permanent building, no permanent staff. Everything was of the nature of a promise and nothing of fulfilment. The College was founded in haste and being affiliated in haste. Why should there be such a haste in affiliation? The University should not hasten in this affiliation without knowledge of the circumstances. The Syndicate should examine the quality of the material, i.e., of the students admitted. A student who had already been rejected by the Syndicate was admitted in the College.

An impression went abroad that admission was lax in this College, and that was a fatal thing. It was true that the affiliation of this College did not interfere with the college classes already in existence. But the affiliation of this College would be used as an argument for interfering with the affiliation of those schools when affiliation was asked for. The Senate should realise that there was another Women's College which would ask for affiliation at a comparatively early date. The Senate should defer the affiliation until next year.

Mr. S. Srinivasa Aiyangar said that some months of the present academic year had already gone. Affiliation could not be made to have retrospective effect.

Mr. Meston seconded the amendment.

Mr. R. Littlehales in support of the original proposition said that the qualification of the staff of the Women's College, Madras, compared very well with those of any other Women's College. Every step would be taken to remedy

the defects. When the Presidency College, the Christian College, and the St. Joseph's College sought for affiliation in Honours, they were not fully equipped at the time. But then the Senate thought it desirable to affiliate the Colleges which gave promise of carrying out the conditions of the regulations. Government accepted that policy in 1911. If the Senate now insisted on the fulfilment of the conditions required by the University, they would be putting a break upon the advance of the work that was being done in Colleges. There were 35 students in the Women's College, Madras.

Sir V. C. Desikachariar heartily supported the original proposition and added that it would be idle to doubt whether the promises in respect of this College would be fulfilled or not. The authority behind the back of this College was Government. The Native States also had promised help.

Mr. S. Srinivasa Aiyangar moved that the words "with effect from the beginning of the academic year 1914-15" be omitted and this was accepted by Rev. Pittendrigh.

The amendment was put to the meeting and carried.

The substantive motion as amended was also carried.

AFFILIATION OF FINDLAY COLLEGE, MANNARGUDI.

Mr. L. A. Govindaraghava Aiyar next moved "that the Senate record its opinion that the application from the Principal, Findlay College, Mannargudi, for the affiliation of the College in Group v of the B. A. Degree course should not be granted by Government." He said that Group v was History and Economics. They should first see whether the affiliation was necessary and desirable in the general interests of University education. The report of the Director of Public Instruction showed that it was unnecessary and undesirable to affiliate that College

ishes ability. Then again Intermediate and B. A. students were permitted to appear thrice for examination while the Honours candidates were allowed to appear only once. This did not appear to have any rational foundation. Still another anomaly existed in that an Honours candidate who failed to get the number of marks required for the Pass course was in a very difficult position, and he therefore moved that in Regulation 204, line 2, for the word "fourth" be substituted the word "fifth" and (II) in Regulation 205, line 2, for the word "once" be substituted the word "thrice."

Mr. K. B. Ramanathan seconded the proposition.

Mr. Ramalinga Reddy said that another proposition in the name of Mr. K. V. Rangaswamy Aiyangar covered this Resolution and if that was taken up first and passed this Resolution would not be necessary at all.

The suggestion was agreed to and Mr. Ramanujachariar withdrew his proposition and Mr. Rangaswamy Aiyangar's proposition for the repeal of Regulation 204 concerning the Honours Course examination was taken for consideration.

Mr. Rangaswamy Aiyangar after explaining the provisions of Regulations 204 and 109 regarding the B.A. and Honours Courses pointed out the difficulties which Mr. Ramanujachariar pointed out in his speech and said that under the present rules a candidate who wanted to take the M. A. Degree has to take a course of three years after the Intermediate or two years after the B. A. Course. He said that no such restriction should be placed insisting on the candidates to pass the examination in a specified number of years and that too much emphasis has been placed upon it. And then the restriction about the age limit prevented many from taking special studies. The rules regarding the number of years worked very hard and did not allow for accidents such as illness, etc., which seemed to set a premium upon their health. Further under the University Acts it was impossible for a student to obtain the

Master of Arts degree in any other University. So that under the present rules a student of the Madras University had no chance of taking a Masters degree unless he had been affluent enough or ambitious to take the Honours Course immediately he passed the Intermediate or B. A. The speaker, therefore, asked for the repeal of the Regulation so that it might be possible for a student to take the degree when he had the opportunity which financial or other circumstances prevented him from taking earlier.

Mr. Rangaswamy Aiyangar had to cut short his speech considerably as it was very late in the evening and the further consideration of the subject was postponed after the motion was seconded by Mr. S. Srinivasa Iyengar.

On the motion of Sir V. C. Desikachariar, the meeting was then adjourned to the 20th inst.

An adjourned Meeting of the Senate was held on the 20th inst. in the Senate House at 4-30 P.M., with the Vice-Chancellor in the chair.

The Hon'ble Mr. J. H. Stone pointed out that there were a number of Resolutions before them to alter the conditions under which candidates should be allowed to appear for the examinations and that such important alterations in the Regulations ought not to be effected without full discussion in a committee of the Senate. Legislative assemblies referred important matters and Bills to select committees. He therefore begged to move that the following be appointed as committee to examine the Regulations 181, 182, 185, 187, 188, 189, 174, 183, 194, 203, 204, 205, 207 and 212 to report whether any and if so what modifications in them are desirable and that the committee should not be precluded from dealing similarly with any other regulations if they consider that such action is necessitated during the course of their enquiry:—Messrs. B. Hanumantha Row, A. W. Bishop, R. Littlehales (convenor), E. M. Macphail, E. W. Middlemast, G. A. Natesan,

L. A. Govindaraghava Aiyar, Meston, Bertram, Rangaswamy Aiyangar, Srinivasa Sastri, K. Ramanujachariar, Swamikannu Pillai, Jones, Erlam Smith, Pittendrigh, Stone and Srinivasa Aiyangar.

He said that there were various points to be considered before those Resolutions were passed. The Senate would not suffer in any way from an expression of opinion by the committee on this matter.

Mr. B. Hanumantha Row seconded this motion which was put to the meeting and carried.

Items XXV, XXVI, XXVII (i), XXVIII (iii) and (iv) and XXIX on the agenda were covered by this Resolution and consequently the Senate proceeded to discuss the rest of the items on the agenda.

INFORMATION REGARDING MARKS.

Mr. P. Lakshminarasu then moved "That candidates for the examinations of the University be given their marks on payment of a specified fee." He said that a bye-law of this kind existed in Bombay and Calcutta. A similar practice should be followed here also. It would entail additional labour to the University staff, but it would be an advantage to students. He understood that the Heads of Colleges were sometimes given information of the marks of passed candidates. Where was the harm in giving information direct to failed candidates on payment of a fee?

Mr. G. Venkataranga Row seconded the Resolution.

Rev. Macphail wanted to know if that was a recommendation to the Syndicate and if it was a bye-law or a regulation.

Mr. Lakshminarasu replied that it might be added as a regulation.

There was then some interesting discussion on the meaning of the expression "to give marks on payment of a fee."

The Vice-Chancellor suggested that the Resolution, if carried, might be added as second paragraph to Regulation 164.

The Hon'ble Mr. Stone said that it was quite unnecessary to make it a regulation.

Mr. Hodgson asked if it would be practicable to furnish such a large number of candidates with marks.

Sir V. C. Desikachariar said that it would be a legitimate source of income. The income derived therefrom would be more than the pay to the additional clerks.

The Vice-Chancellor in answer to Mr. K. Ganapathi Aiyar said that Heads of Colleges could be furnished confidentially with the marks of any students from their own colleges. That was the practice of the Syndicate.

Sir V. C. Desikachariar said that there was no arrangement with regard to a large number of private candidates.

Mr. K. B. Ramanatha Aiyar saw nothing wrong about giving information of marks to students on payment of a specified fee.

Mr. Lakshminarasu made certain verbal alterations in the Resolution to make it read thus: "That candidates for the examinations of the University be furnished with a statement of the marks obtained by them on payment of a fee of Rs. 2".

The Resolution was carried.

RE-VALUATION OF ANSWER BOOKS.

Mr. Lakshminarasu next moved "That the answer book of any candidate in any subject be revalued on payment of a specified fee by a member of the Board of Examiners in that subject other than the examiner in that subject." He accepted the amendment of the Hon'ble Mr. V. S. Srinivasa Sastri to add the words at the end of the Resolution "provided such re-valuation is recommended by the Principal of an affiliated College or an ordinary Fellow."

Mr. K. Ganapathi Aiyar seconded the Resolution.

Rev. Macphail again pointed out that the Resolution was not properly worded. He said that as the Resolution stood, it would mean that a member of the Board of Examiners should pay the specified fee for the re-valuation of the answer book. (This remark gave rise to an outburst of laughter in the House.) He opposed the Resolution on the following grounds:—if a candidate paid a specified fee, why should he be allowed to have his marks revalued. The standard of valuation of no two examiners was exactly the same. If the examiner revaluing the answer book was more lenient, the particular candidate would get the benefit, while other candidates would not have a similar advantage. He was always in favour of the valuation of every answer book by two members of the Board, especially in the B.A. Honours examination. Unfortunately that could not be done. The examiners were doing their best in valuing answer books and students ought to be satisfied with the results. He did not believe that good candidates often failed on account of the bad valuation of answer books by examiners. If at any time the Chairman of the Board of Examiners found that a good candidate failed, he wrote to the examiner about it. Such a thing had happened frequently. Possibly a mistake like that might occur once or twice. If the Resolution was carried, injustice would be done to a great mass of candidates.

Mr. Hodgson in opposing the Resolution said that if the Resolution was adopted one of two examiners would be condemned. The best solution of the difficulty was to judiciously select the examiners and pay them amply. Further there were certain branches of Chemistry and other subjects in which it would be impossible to find more than one or two persons competent to re-examine the answer books.

Mr. K. Ramunni Menon, in also opposing the Resolution, said, that it would be impossible to

have re-examination in practical work in certain subjects.

The Resolution was lost.

PROCEEDINGS OF THE BOARDS OF STUDIES ACCESSIBLE TO MEMBERS OF SENATE.

Mr. P. Lakshminarasu then moved: "That the proceedings of the Boards of Studies, Boards of Examiners, Boards of Moderators and special committees, shall be accessible to any member of the Senate on application to the Registrar at a convenient hour fixed by the latter." He said that there could be no objection to those proceedings being shown to Fellows of the Senate.

In answer to Mr. Natesan, the Vice-Chancellor said that the Boards of Studies maintained minutes of proceedings.

The Resolution dropped for want of a seconder.

BOARDS OF STUDIES TO CONSIST OF CHIEF PROFESSORS.

Mr. Lakshminarasu next moved the following Resolution:—

"The Board of Studies in each branch of knowledge shall consist of all the chief professors in that subject in the first grade Colleges affiliated to the University and of such other persons possessing special knowledge as may be appointed by the Syndicate."

He said that the object of the Resolution was to bring the Colleges more in touch with University. A University ought to consist of Colleges and they ought to dominate in the work of the University. Boards of Studies should be constituted by professors of the several colleges. At present professors were appointed by the Syndicate as members of the Boards of Studies, if they chose to do so. Chief Professors must be made members of the Boards of Studies by virtue of their appointments.

Mr. Hodgson in heartily supporting the proposition said that there were only 15 first grade colleges and therefore there could be only 15 members of any Board of Studies, i.e., three more than the present maximum number. The reform

was a very desirable one. He only hoped that the time was not far distant when the Chief Professors of every first grade college were not only members of the Boards of Studies but also members of the Senate.

Mr. Ramunni Menon pointed out that the Resolution was an inadequate substitute for Regulation 140. According to the Resolution there would be no fixed period of tenure. The members would continue indefinitely on the Boards.

Mr. Lakshminarasu replied that if a professor when on leave, another gentleman who would occupy that place would become a member of the Board by virtue of his position.

Rev. Macphail while heartily sympathising with the objects of the Resolution pointed out that in the Christian College no professor was called Chief Professor. The proposal would not therefore apply to the Christian College. Owing to the incomplete character of the proposal it should be remitted to Mr. Stone's committee. He therefore moved that the Resolution be referred to Mr. Stone's committee.

Sir V. C. Desikachariar seconded this amendment which was put to the meeting and carried.

CHANGE OF EXAMINATION DATES.

Mr. S. Srinivasa Aiyangar moved the following Resolution:—

"That the dates of the examination of the Matriculation, the Intermediate Examination in Arts, the examination for the degree of Bachelor of Art, the examination for the B.A. (Honours) Degree, the First Examination in Law, and the B. L. Degree Examination be changed from March to December and from April to January, as the case may be, and that all consequential amendments in the Regulations be made."

He said that the reasons must be obvious to those who had had to do with the education of this country.

The Vice-Chancellor.—The present system was introduced after very careful consideration to avoid a serious evil.

Mr. Srinivasa Aiyangar, continuing, said, that the vast majority of students and parents would be in favour of the proposed change. In a matter like that the voices of students and parents ought to be considered.

No serious objection could be urged to the old system. He had been in communication with the Heads of the Colleges, on that subject. Some of them were in favour of his proposal and others not. Students generally prepared for examinations only during the last one or two months. Having regard to the nervous equipment of the Indian boys the strain of the examination on them was far greater than anything which could be conceived by people living in a cold country. A good deal had been said about the physical culture and about the lightening of the burden of the school work and so on; why they should have examination in the hottest part of the year, passed his comprehension. The strain of examinations on Indian boys during colder months was heavier than they could possibly bear. The strain in summer months must be much greater.

Further, under the present system, boys got holidays for three months after the examinations were over. During that period they had nothing to do with books. That was not a wholesome system. Two or three months were practically wasted. Further, at present there were two uneven terms, one very long and the other very short.

The objection to the proposal would be the old familiar objection that they were going back again. That objection ought not to frighten members of the Senate. If the system was not satisfactory, they must go back to the old system. The difficulty of working out the details consequent on such a change of dates could be solved by the united wisdom of the House. Such a consideration ought not to deter them from considering the Resolution.

It might be argued that under the new system examiners had ample time to value the paper

Under the old system also the examiners were doing their work properly. In conclusion he said that honest public opinion was generally in favour of the change of dates.

The older examinations cost the University much less than the present examinations. For administrative purpose also, the change would be for the better.

Dr. Swaminathan seconded the proposition.

Sir V. C. Desikachariar said that many eminent persons were leaving India during holidays and students were losing the services of such persons as examiners. In that respect, going back to the old system was good. He could not support the change on the ground that March and April were summer months. They were not summer months except in Trivandrum and a few other places. Further, boys were better able to stand the hot weather than the cold weather. The boys got two months after the examinations under the present system to recuperate their health. On the other hand, Christmas holidays used to be originally a month and now only a fortnight. If the examinations were held in December, how would the boys be able to join the Colleges immediately after the examinations.

The Resolution might, therefore, be referred to a committee.

Mr. K. V. Rangasawmy Aiyangar supported Mr. Srinivasa Aiyangar's proposition. He very strongly objected to the system of shifting the responsibility of the Senate on committees and of later on opening up the question again. The Senate ought to face the problems squarely. This question was not really germane to the question referred to Mr. Stone's committee. The Senate ought not to play with such issues. How often had they seen committees being appointed and disbanded? He very strongly protested against the tendency to refer matters to committees.

Mr. C. P. Ramaswamy Aiyar also opposed the suggestion of Sir V. C. Desikachariar. To refer the matter to the committee was unnecessary and undesirable.

Sir V. C. Desikachari said that if any subject was to be referred to a committee, it was this.

Mr. Stone also said that it might be referred to a committee.

Mr. S. Srinivasa Aiyangar said that some of the questions referred to Mr. Stone's committee would have some bearing on this question. He therefore gratefully accepted Mr. Stone's suggestion.

The Vice-Chancellor remarked that important changes in the Resolution should be investigated by a committee which could present the various aspects of the question to the Senate and then the Senate could deal with them definitely.

The motion to refer the question back to Mr. Stone's committee was carried.

HOSTEL ACCOMMODATION IN MADRAS.

Mr. G. A. Natesan then moved the following Resolution:—

"That a committee of the Senate consisting of the Hon'ble Mr. J. H. Stone, the Hon'ble Mr. Justice T. V. Seshagiri Aiyar, the Hon'ble Rev. G. Pittendrigh, the Hon'ble Dewan Bahadur L. D. Swamikannu Pillai, the Hon'ble Mr. V. S. Srinivasa Sastri, Messrs. E. W. Middlemast, K. B. Ramanathan, W. H. James, S. Srinivasa Aiyangar, Yakub Hussan Sait, B. Hanumantha Rao, Arthur Davies, A. C. Pranatharthihara Iyer, P. Lakshminarasu, R. Littlehales, K. Ramanujachariar, E. W. Green, G. A. Natesan (convenor) and Col. Donovan be appointed (1) to enquire and report to the Senate at its next meeting, in March on the adequacy and nature of hostel accommodation provided for the students in the colleges in the City of Madras affiliated to the University, and (2) to make definite proposals for the better accommodation and boarding of such students."

He said that the proposition applied only to colleges in the City of Madras, affiliated to the University and the committee also was composed of gentlemen living in Madras. He dealt with the several colleges in Madras.

In the Christian College 209 students lived in small hostels formed by themselves. In the Pachaiyappa's College out of 813 students, 52 students were neither living with parents nor residing in hostels but were taking meals in so-called hostels. In the Presidency College out of 697 students except 116 students who were members of the Victoria Hostel the rest were left to themselves as regards boarding and lodging. In the Law College out of 504 students 131 lived with parents, 18 in recognised hostels and the rest were left to find their own resources. In the Engineering College out of 430 students 50 were in hostels, 150 with parents and a good number of students were left to themselves for meals. In the Wesley College, out of 200 students, 151 lived with parents and, 22 in hostel. In the Medical College out of 264 students a few were in the Y. M. C. A. and Y. M. I. A. and about 200 lived on their own resources. Out of 3808 students of the affiliated colleges in Madras nearly 1,300 and odd were more or less left to their own resources. The Y. M. C. A., the Y. M. I. A., Ramakrishna Home and a few other hostels gave accommodation to some. A large number of students were made to take meals in so-called hostels where the meals were not at all of a nutritious character. The complete removal of the General Hospital to the Spur Tank would take at least 15 years. If it was removed, a hostel could be located in its present site. If the committee made its enquiry it might stimulate heads of colleges to provide better hostel accommodation to students of their own colleges. Other arrangements could also be made. Government also might see that some steps should be taken to better the condition of students.

Mr. C. P. Ramasamy Aiyar in opposing the proposition said that he could not understand what the committee was going to do in the matter. If Government should see its way by an appeal made by the Senate to enlarge its subventions or take away the restrictions which hampered the activities of the colleges by granting more money for hostels (say 75 per cent. instead of 50 per cent. for hostels) that would be a great thing. The committee was not going to give money. All that was wanted was money. The committee might check the private enterprise that already existed.

Mr. F. E. Corley and Mr. S. Srinivasa Aiyangar supported the Resolution.

Mr. L. A. Govindaraghava Aiyar supported Mr. C. P. Ramaswamy Aiyar and said that the proposal was futile. It was not on account of unwillingness on the part of managers of institutions that there was want of such hostel accommodation. The whole thing was a question of funds. The proposal might cause mischief to certain hostels which were not able to conform to the standards. The committee might suggest that certain points should be observed by such hostels. Further why should they consider so much of hostel accommodation of students in Madras alone?

Rev. Macphail in supporting the Resolution said that the committee could go into the question as to the possible ways of improving the hostels. The greatest need for improvement existed in Madras. A similar thing might be done to students in mofussil colleges later on.

Mr. K. B. Ramanatha Aiyar said that the gentlemen now proposed for the committee were not the sort of persons that would fulfil the objects of the committee.

The Resolution was put to the meeting and carried.

A SPECIAL MEETING.

A special meeting of the Senate was then held to consider the Resolutions passed by the Senate in committee on October 31, 1914 with a view to find out means for improving the financial condition of the University.

Mr. Natesan moved to declare the meeting dissolved, as the deficit of the University funds was not Rs. 50,000 as was originally stated by the Registrar but only Rs. 18,000. The Syndicate would be able to deal adequately with the subjects connected with this Resolution.

Mr. S. Srinivasa Aiyangar seconded this motion and said that proposals might be better formed by the Syndicate. The Syndicate might come forward with other proposals for approval.

Mr. S. Krishnasamy Aiyangar also supported the motion and added that the Resolutions passed by the Senate in committee should be dropped and the question of finance should be treated *de novo*.

The motion "that the meeting be dissolved" was carried.

Madras University—Convocation Address.*

MR. CHANCELLOR, LADIES AND GENTLEMEN :—

In obedience to the wishes of H. E. the Chancellor, I rise to deliver the customary address to the graduates on whom degrees have been conferred, to exhort them to conduct themselves suitably unto the position to which they have attained. It is with no light heart that I have undertaken the discharge of this duty. My recollection of the learning, wisdom and eloquence which have adorned the speeches of my distinguished predecessors and my sense of my own deficiencies made me hesitate long before I accepted the task. Every year that passes adds to the difficulty of finding anything new to say and of saying anything old in a form in which it has not been presented before. I trust, however, that you will make due allowance for my disadvantages and my shortcomings.

Before proceeding to discharge my appointed duty, I should like to refer to the loss the University has sustained in the death of the late Mr. Justice Sundara Aiyer, who was one of her most distinguished *alumni*. A brilliant lawyer and advocate, a Judge who was an ornament to the High Court, he set an example of erudition, thoroughness and love of justice to the legal profession and the judiciary. His career was an illustration of the possibilities of eminence open to talent in this country even when unassisted by the advantages of birth or wealth. As a citizen, his influence was ever on the side of moderation in politics. He was keenly interested in

education and gave much valuable assistance to the Syndicate of this University.

Graduates of the year :—I now turn to the pleasant duty of offering you, on behalf of the Senate, our hearty congratulations on the degrees which you have obtained.

Graduates in Honours :—You have the distinction of being the first finished products of the new order of things which was inaugurated by the regulations framed under the Universities Act of 1904. You have gone through a more elaborate and arduous course than the Pass B.A., and have now won the goal. The success you have achieved is an augury of the success that awaits you in your future career.

Graduates :—You owe your distinctions to no favour or adventitious aid, but to yourselves, to your natural abilities, your hard work, and your perseverance. In the pursuit of learning, several of you have had to contend with poverty and undergo privations, and all of you must have subjected yourselves to discipline and self-control. The success which has crowned your labours has received a public recognition at the hands of the University this afternoon. This impressive function will be associated in your memory with feelings of unalloyed happiness. You look forward with eagerness to a future, bright with the rosy tints of youthful imagination. It is only natural that at this turning point of your career, at the termination of your intellectual tutelage, the University, under whose guardianship you have

spent the most plastic period of your life, should desire to offer you some parting words of counsel as to your future conduct and seek to impress them indelibly on your minds by a ceremonial as solemn as she can make it by inviting the attendance of a distinguished audience.

The general or professional knowledge you have acquired, the taste for learning you have cultivated, the principles of conduct you have imbibed, and the habits of industry and self-denial you have formed, will be of immense help to you in the world you are about to enter. It is, however, useful to warn you against a too-confident expectation that the prizes of life will be proportioned to success in the University examinations. The abilities and qualities of which you have given proof will, so far as they go, be factors of success in life. But the sterner conditions of the outside world will demand, not merely a higher development of the qualities already acquired, but others not tested by examinations or guaranteed by the course of training already undergone. Shrewd knowledge of human nature, tact, readiness of resource, power of initiative, force of character, and the strength of mind to overcome distractions and temptations—these are among the qualities which make for success in life. External circumstances also count for a great deal and serve to help or hinder a man's way in life. Prize-winners at College sometimes turn out dismal failures, but you may take comfort in the thought that, in the average, academic distinction does give a man a start in the world and is a precursor of success.

The choice of a career is the most momentous question in the life of a young man, and yet it is the one in the solution of which he receives the least help from others. One

reason for the inability of others to help you is that of the two factors involved, aptitudes and openings in life, a knowledge of the first is only possible to you or to such teachers as may have had opportunities of close contact with you. Another reason is that, except in the case of the comparatively small number who have a marked capacity for particular fields of work, the average graduate exhibits no special predilection for one kind of work rather than another. It may not be altogether vain to devote a little thought to the question of openings for employment. The profession of Medicine is one which is bound to grow with the increasing appreciation of the European system of medicine, and notwithstanding the partiality of the masses for the cheaper indigenous systems which they believe to be better suited to Indian conditions and constitutions, the profession is bound to win its way. The profession of Engineering is also bound to expand in this country and is limited only by the extent of the funds at the disposal of the State and the local authorities. Private employment offers little scope at present for the Civil Engineer, but the need for sanitary works and the requirements of building regulations in Municipalities will widen the field of employment. It is also difficult to see why private engineers, singly or in firms, should not take up works of construction now undertaken by unqualified contractors. Seeing how many contractors have risen from humble beginnings, the initial want of capital cannot be an insuperable obstacle. Eliminating the graduates who wish to take up medicine or engineering, the large majority will probably turn their eyes to law, teaching, or the public service. The Bar has, for various obvious reasons, exercised a fascination over our young men. It is

* Address by the Hon. Mr. P. S. Sivaswami Aiyer, C.S.I., C.I.E., on the 19th Nov, 1914.

time, however, that the conditions of life at the Bar are more clearly realized by those who seek to enter it. As the saying goes, many are called but few chosen. Our people have not yet begun to appreciate sufficiently the advantages of consultation before troubles arise or of skilled conveyancing, and we have at present no large class of practitioners corresponding to family solicitors. It is far from my intention to dissuade any of you from joining the ranks of the profession who can afford to maintain yourselves during the years of weary waiting or who feel conscious of a pronounced aptitude for law. The teaching profession offers no prospects comparable with those of the Bar or the Public Service, but the emoluments in the initial stages are less unsatisfactory, and it is an honourable calling which possesses advantages of its own. The public service will probably attract a much larger number of graduates than the other walks of life. While it is a perfectly natural and legitimate ambition to rise to distinction in the service of the State and while the administration benefits by the influx of graduates, it is desirable that you should consider the question both from the personal and the national point of view. Reflect on the enormous number of graduates serving in the lower grades of the public offices and the small chances that the majority of them have of rising even to the lowest grades of the gazetted ranks. Reflect on the loss to the country caused by the flocking of its educated classes to the Government service instead of resorting to occupations in which they may have the opportunity of developing its resources and improving its wealth. The phenomenon of young men crowding to enter the Government service is not peculiar to this country, but the results are far more harmful here than in other

countries. Describing the evil in France, a recent writer observes: "Everybody is seeking to provide for his sons by placing them in office, hence the entire school system, with its drills and cramming for the examinations, with its prizes and distinctions for those who best meet the requirements, has for its end the preparation of a pupil for a 'career.' But the consequence is loss of independence, of individuality and enterprise, spiritless passivity. The individual either idles away his time waiting for his turn, or he eagerly tries to push ahead, by cringing or crawling, by assiduous toil and struggle." It is a matter for most earnest consideration whether it is not worth your while, at any rate, if you fail to secure satisfactory openings in the now favourite walks of life, to think of new fields of employment. It was a wise suggestion by one of my predecessors in this place that you should think of turning to the occupations you would have followed but for your University education. Agriculture, trade, industries, and mechanical engineering offer a wide field of employment, conducive alike to your own advantage and to the prosperity of the country. If you are content with a small beginning and rise superior to the vulgar prejudice against manual labour, you are bound to succeed with your advantages of general education.

Whatever may be the walk of life you may decide to enter, you owe it as a duty to yourselves and to society that you should equip yourselves as thoroughly as possible for the discharge of the duties of your profession or calling. It is not enough to have mastered the text-books prescribed for your course of professional studies. They have served only to give you a knowledge of the main principles of your science or subject and to

lay the foundations for further acquisition of knowledge. Professional literature in all departments is daily growing, and it is your duty to maintain a high level of attainments. Apart from the sense of satisfaction that every acquisition of knowledge brings, it is bound to increase your professional skill and enhance your reputation. If a return were called for from graduates in the learned professions of the new books in their departments they have studied since taking their degrees or of the professional journals they subscribe for and read, the figures, I am afraid, would be exceedingly disappointing.

Next to the necessity of keeping up the level of your professional attainments and your physical efficiency, I would impress upon you the necessity of continuing and improving the process of self-culture, the seeds of which have, I trust, been already implanted in your minds. No better road to culture can be recommended than the study of English literature. I do not agree in the criticism which has been recently directed in some quarters against the compulsory study of English for the Arts degrees. In view of the growing tendency to specialization in the optional subjects and the narrowing effect of a too-exclusive pursuit of some one branch of knowledge, the need for a study of English literature cannot be too strongly emphasized. No language can boast of a richer, nobler or more varied literature than the one which, by the dispensation of Providence, is fast becoming the common language of India and of the greater portion of the civilised world. As a means of expanding your sympathies, elevating your tastes, and inspiring you with high ideals, English literature stands second to none.

Too often our graduates confine themselves

exclusively to a diet of newspapers, varied perhaps by one or two periodicals. The burden of our daily duties makes intellectual recreation all the more imperative. Neglect of secondary pursuits which enrich our intellectual life and improve our capacity for the enjoyment of refined pleasures will be followed by the penalty of a dreary dullness which will be more and more felt in the declining years of life.

The claims of the languages of Europe, both ancient and modern, have often been pleaded from this platform. May I be allowed to plead the cause of the Indian classics? If, in the opinion of the most cultivated and thoughtful minds of Europe, the classics have an important place in a scheme of liberal culture, is it too much to claim a place of at least equal prominence to Sanskrit, a language which for flexibility as an instrument of thought and for vocal charm may challenge comparison with any in the world and can boast of a literature containing precious treasures of thought, imagination, beauty and wisdom? As the language which enshrines the highest ideals of Indo-Aryan civilization, as the language in which the highest achievements of the Hindu mind in the region of philosophic speculation and religion have been recorded, as the language to which most of what is valuable in the vernacular literatures of India owes its inspiration, and as the language in which the ordinances that regulate our social life and institutions to this day have been written, a knowledge of it is an essential element of culture to every Hindu. A scholarly or grammatical study of the language may require an amount of leisure which cannot be spared. But such a study of the language as will enable you to appreciate literary masterpieces like the Ramayana, the

Mahabharata and the Bhagavad Gita need not tax your energies or seriously encroach on your time.

Along with the habit of reading, you have to cultivate the habit of clear thinking. It is not uncommon to find that the habit of thinking is cultivated in inverse proportion to the habit of reading. It does not, however, follow that the man who does not care to read at all can claim any advantage over the man who reads, in the habit of thinking. You have passed the stage when you had to accept opinions on authority, and you have acquired the intellectual liberty of criticising and of putting things to the proof. Avoid the tendency growing even among the educated class to discuss things about which they are insufficiently informed without taking the trouble of previous study and preparation. As citizens, it will be your duty to take an interest in current affairs and form your own independent opinions, whatever question may come up to you for judgment. Endeavour to the best of your ability to strip yourself of all bias and consider it in all its aspects and from all points of view. Guard yourselves against the tendency to borrow opinions from newspapers, a tendency which is fast growing in most countries. While I have no intention of suggesting that journalists should abdicate their high function of guiding or educating public opinion, it is necessary that intelligent readers should remember the conditions under which newspapers are published and should hesitate before accepting the opinions expressed in editorials as infallible guides or even as unmistakable indications of public opinion. The spirit of self-examination and of intellectual honesty is one of the marks of a man of culture and has to be sedulously cultivated.

If you find you have been mistaken in your opinions or in your conclusions, do not hesitate to acknowledge your error. Such manly conduct adds more to one's prestige than obstinate adherence to one's opinions from a regard for consistency.

You will find it a most useful and necessary accomplishment to acquire the power of giving ready expression to your thoughts in as clear and direct a style as possible. The vernaculars receive too little attention as vehicles of communication of our ideas. But unless our educated men can learn to handle their vernacular tongues with at least as much ability as they can handle English, their influence on the masses of the people will be extremely limited. Among the duties you owe to society, the obligation to promote the cause of sound learning is one to which you have pledged yourselves this day. It may not be possible for many of you to take any part in the work of teaching, but it is possible to promote the cause of education by other means than participation in teaching. By educating the members of your families, by rendering assistance to poor and deserving scholars to obtain education, by pecuniary help to educational institutions which need support, by producing or assisting the production of translations of scientific, historical and literary books in the vernaculars, or by taking an active part in the administration of educational institutions with which you may be associated, and last but not least, by setting a personal example of devotion to knowledge, it is possible to advance the cause of learning. The importance of female education is sufficiently recognised at the present day, whatever practical difficulties may have hindered its progress. The social customs which necessitate

the withdrawal of girls from schools at an early age show signs of relaxation. The demand for secondary institutions for girls in towns is making itself audible, and if they can only be adequately staffed by female teachers, there is no reason for despondency as to the future. The only question that admits of any discussion now is the lines on which the education of girls should proceed. There is a feeling in many quarters that the education of girls should not proceed on the same lines as that of boys and that a different course is necessary to meet the requirements of the cultivated Indian home. It may be conceded that for the large majority of women the course need not be framed with an eye to degrees or examinations. If, however, it is necessary to provide a course of liberal education, it will be difficult to exclude many of the subjects that are taught in the schools for boys. An advanced course of science or mathematics may not be necessary in the case of the average school girl; but can we dispense with a knowledge of history, geography, elementary science, hygiene or English? We have also to bear in mind the need for providing a large body of trained female teachers, and in their case at least, the course prescribed should be more or less the same as that for men. The College for Women which has been recently started in Madras marks an era in the history of female education in this Presidency, and there is little doubt that a rapid expansion of its activities will be needed to meet the demand for female teachers. It is only when the disparity in education between the men and women of the family is reduced that it will be possible to expect the end of the double life led by our educated countrymen. I hope that in the years to come the practice of demanding

pecuniary dowries for girls will give place to a demand for the dowry of education.

The subject of the reform of our social institutions has for a long time engaged the attention of our educated classes. It is one of the ironies of fate that in this, as in many other spheres of reform, men should be adepts at preaching rather than at practice. But do not discount the value of preaching by the whole measure of the difference between the two. The *argumentum ad hominem* is not an argument on the merits at all. As in politics, there are now three schools of thought which hold the field. There is the extreme left which believes in violent upheavals and sudden changes. There is the moderate centre which believes in the combination of progress and order, has no faith in the efficacy of a secession leading to the formation of another caste and widening the gulf between the masses of the people and the educated classes, and which trusts to persuasion and the creation of public opinion. And there is the extreme right, consisting of the conservative masses and the educated reactionaries who believe in the eternal value of institutions which were devised to suit environments now undergoing a rapid change, which, however effective for the preservation of social units from the shocks of conquest prevent the larger aggregations required for national existence under modern conditions. The extreme left forgets that the cult of defiance of authority will not, if successful, end with the subversion of just those institutions only that it wished to destroy, but is only too likely to produce the evils of a social and moral anarchism. The heroism which leads the forlorn hope may be magnificent in its way, but it is not battle. The education of the people and the moulding of public opinion promise more success than

violent denunciation and incitement to revolt. The silent pressure of economic forces and of the instrument of material civilisation is a powerful ally of social reform, as may be seen in the daily weakening, if not the disappearance, of the objections to foreign travel. Do not imagine that I wish you to acquiesce in the social institutions which are hampering our material growth or to turn you from the path of social reform. Throw yourselves into the work with all the generous enthusiasm of which youth is capable, but do not neglect the path of persuasion and the duty of carrying society with you.

As citizens you should take an interest in the administration of our local boards and municipalities. The field of local self-government offers an excellent training for political capacity and for the exercise of public spirit. There is a disposition on the part of the best men in this country, as in others, to avoid participation in the management of local bodies. One reason alleged among others is that the atmosphere of corruption and ignoble canvassing that surrounds the elections in several of these areas renders it impossible for honest self-respecting men to succeed in an election. Try to educate the electors to a higher sense of responsibility and to purify elections. Never seek success at any election by appeals to caste, creed or class prejudices. Endeavour to eradicate the spirit of faction that hinders work in several of these bodies. Even if you are not a member of any local body, your duty as a rate-payer demands that you should keep a watchful eye on the administration and expose defects and mismanagement. It is the apathy of the good men that furnishes opportunity for the bad. Do not despise the work of our municipal bodies

as concerned with petty parochial questions. The late Mr. Joseph Chamberlain owed not a little of his Parliamentary success to the early training he received by his connection with the Corporation of Birmingham. The sphere of beneficent work that is open to local bodies is vast. Everything that will promote the material well-being of the inhabitants and the diffusion of education comes within the purview of their operations. Compare the mortality rates generally and of infantile mortality in particular in our municipalities with the rates of European towns with a population of the same or larger size, and you will realise how much it is possible to reduce the rates of mortality by the execution of sanitary works, by the improvement of housing conditions and by the removal of the defects of bad town-planning. Fortunately, a desire for amelioration has been awakened, and you can do no more useful service to the country than by studying municipal problems and enlisting the intelligence and sympathy of the people in favour of improvement and inducing them to adopt the necessary measures, including, where needed, the submission of additional taxation. The satisfaction of having contributed your efforts to raise the standard of health and comfort and to increase the average of life among your townsmen, will be no mean reward of devotion to municipal work.

Graduates in Law:—It would be out of place to enter into the ethics of advocacy in any detail. There is an abundance of literature on the subject to help you. You cannot do better than study the admirable series of lectures delivered on the subject by the late Mr. Justice Sundara Aiyer. The Bar in India has not had time to build up traditions like the Bar in England. Study the lives of famous

Lawyers and Judges in England and follow the best traditions of the English Bar and you cannot go wrong. I would only say this, that it would be a fatal mistake to imagine that your duty is only to your client or to yourself. You owe a duty to your opponent, to the witnesses, to the Court, and last but not least, to the profession to which you will have the honour to belong. Do not waste the briefless years of your professional existence in idly sighing for business, but devote them to the study of standard works and a mastery of principles, and, if practicable, to specialization in some particular subject. So will you be able to build up a reputation for learning and ability and be ready to take the tide in your affairs at the flood.

Graduates in Medicine:—There is a vast field for research and a great need for specialization in your profession. It is a matter for regret that so few even of those who go to the United Kingdom for medical education should think of studying any special subjects except perhaps sanitation. Specialization will not merely enable you to achieve greater distinction in the profession, but will also facilitate research work. One field of enquiry to which, I hope, some of you may be attracted is the study of the indigenous systems of medicine. You are aware of the immense faith placed by the large mass of our countrymen in these systems. It may or may not be that the Western system of therapeutics has nothing to learn from the Eastern. But I have not had the good fortune to come across a single medical man educated in Western methods who could honestly say that he had made a careful study of the indigenous system before he condemned it. Lordly contempt

from a high *a priori* standpoint cannot convince the people whom in the interests of your science and of humanity you should seek to convert to your views.

Graduates in Engineering:—Your subject is expanding so rapidly that the time has arrived for you also to specialize. The subjects of mechanical and electrical engineering, of municipal engineering and architecture, will hereafter claim more attention and special study and you will find such specialization not unprofitable.

Graduates in Teaching:—There is no calling more dignified than yours. The salaries paid to the members of your profession are, as in other countries, small in comparison with other professions. But the opportunities you possess for self-culture and for the advancement of learning, and the satisfaction you will derive from moulding the minds of the next generation of citizens, are no small compensation. Learn to respect yourselves and to measure the worth of your calling, not by its pecuniary emoluments, but by its responsibilities. You will be doing a valuable service to the country by spreading a knowledge of the principles of sanitation and co-operation by means of popular lectures. You will have discharged your duty not by attending merely to the intellectual education of your pupils, but by shaping their character training them in habits of self-reliance and impressing upon them the highest ideals of conduct in private and public life. Lay to heart the wish of His Most Gracious Majesty the King-Emperor that the schools and colleges in the land should send forth loyal and manly and useful citizens, able to hold their own in industries and agriculture and all the vocations in life, that the homes of his Indian subjects should be brightened and their labour sweetened by the

spread of knowledge with all that follows in its train, a higher level of thought, comfort and health.

Some of you may find an opening in the world of journalism. The daily press in India is steadily growing in volume, circulation and influence, and there is ample scope for further expansion in the future. The press has unrivalled opportunities for the dissemination of knowledge, the guidance of public opinion, the stimulation of interest in every subject of human thought or welfare, and the enlargement of the mental outlook of the people. Its responsibilities are as heavy, as its powers are far-reaching. The path of a journalist is full of perils and pitfalls and he would be a bold man who could assert that journalists in this country, any more than in others, have succeeded in avoiding them. Do not contract the habit of looking at the gloomy side of things alone, but look at the bright side of the picture also. The writer, for instance, who thinks that everything is out of gear in the administrative machinery and who would be very unhappy to be told that India is enjoying prosperity under the British rule, is not a rare phenomenon. Avoid the spirit of carping criticism, which defeats its own object, and cultivate the spirit of fairness which will compel a hearing even from your opponents.

The incessant fire of criticism that has been kept up against the Universities in India renders it desirable to consider how far they have achieved the objects of Universities in modern times, and in what direction a further advance should be made. The functions of a modern University may be taken to be the provision of a course of liberal education to promote culture and the virtues of citizenship, the imparting of professional education, the

promotion of scientific research and learning, and the popularization of knowledge. The collegiate system of education in this country has, from its inception, endeavoured with more or less success to attain the first two objects. The complaint of want of originality and research made against our graduates ignores the fact that the colleges made no attempt to provide any facilities in the shape of libraries, laboratories or fellowships, and that the Universities were only examining bodies until the Act of 1904. It is only within the last few years that in consequence of the enlargement of their functions by Lord Curzon's legislation and liberal subventions from the Government, it has been found possible to make a humble beginning in the provision of facilities for research. Hostile critics make no allowance for the numerous disadvantages under which graduates in this country have laboured, not the least of which is the want of living examples in our midst of original workers to guide and inspire. Even in European countries, the bulk of the research work is, I believe, carried on only by men engaged in the work of teaching in Universities and colleges. It is doubtful whether a fellowship which cannot lead to absorption of the Fellow in the profession of teaching and offers no hope of any permanent employment will be sufficient to induce our most capable men to devote the best years of their lives to pursuits which will leave them adrift at the end of a term. The conditions attached to the munificent endowment by Dr. Rash Behari Ghose to the Calcutta University seem to suggest the lines of a fruitful policy. A reduction in the number of hours of work of the Professors in the colleges with the necessary increase in their numbers would leave more time at their disposal for the prosecution of research and

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setting an example. Mr. C. Venkataraman, the newly appointed Professor of Physics in the Calcutta University, and Mr. Ramanujam, the Mathematical scholar whom this University has sent to Cambridge, have given signal proof of capacity for scientific work. Some of the young assistant professors and lecturers in our colleges have evinced a taste and aptitude for original investigation or criticism, and the papers they bring out give promise of fruitful work.

Our University has so far taken no steps for the popularization of knowledge, an object which, far from being considered derogatory to the aims of Universities, is now considered as essentially and legitimately within their province. The Universities of the West recognise it as their duty to diffuse knowledge and culture among the people at large, raise their standard of citizenship and economic efficiency and reduce the barrier between them and the learned classes. There are four classes for whose benefit the extension movement may be started in this country, those who, having graduated in particular subjects, desire to widen their culture by a knowledge of other subjects, those who have been unable to go through a college course and have been obliged to stop at the end of the high school course, the large class of elementary and lower secondary teachers and the masses. The last class certainly and the class of elementary teachers probably will have to be reached only by the vernaculars. The want of scientific books in the vernaculars need not be an obstacle, as the oral instruction contemplated can be carried on in such conversational style as our graduates can command. Voluntary outside effort will lack continuity, energy and prestige, and it is for the University to initiate and organise an extension movement on lines suited to this

country. It is not a day too soon for the University to examine the feasibility of an extramural extension of its activities and make a beginning, whatever limitations may be dictated by considerations of finance or of the agency available. In view of the special circumstances of this country, and the divorce between the language of the University and the languages of the people, it is desirable that the University should also consider the possibility of an organised effort for the translation of scientific and other useful works into the vernaculars and the publication of such translations.

The extension of the functions of the University and the enlargement of her sphere of operations cannot be accomplished without the co-operation of her *alumni* and the generous support of the wealthy. No impartial observer will fail to appreciate the benefits that have been conferred on the country by the system of University education. Signs of an intellectual awakening are visible on all hands. Any one who turns over the pages of Indian periodicals of the proceedings of the Legislative Councils will find proof of the variety of interests that now appeal to the educated classes. Social, economic, educational, historical, and literary subjects attract more and more attention from writers and the reading public. A healthy discontent with existing conditions, a desire for progress all round, and a firm conviction that the advancement of the country is possible only under the ægis of British rule, animate all sections of the educated classes. If this country is to take her place among the nations of the world, it is only by the continuance of that unswerving loyalty to the British Throne of which the educated classes have given such splendid proofs within the last few months, by the fulfilment of the pledges which you have

given to the University and by the combination of the highest culture and ideals of the West with those of the East.

We have met to-day under the shadow of the greatest war in the history of the world, a war for which no parallel can be found, save in the Titanic struggles of the legends of antiquity. No part of the world is so distant as not to feel the shocks of the earthquake which is convulsing Europe. Calamitous as the conflict has been, it has not been without its redeeming features. It has helped to cement the solidarity between all parts of the British Empire and call forth a universal outburst of loyalty from all the many races, creeds and classes that owe allegiance to the British Crown. The noble and whole-hearted devotion with which India has rallied round the British flag has evoked the admiration of the world and received the most generous acknowledgment from all parties. There is no one among you, or for the matter of that in India, to whom the war will not be full of lessons of the highest value with its demonstration of the power and resources of the Empire, with its thrilling exploits of valour and self-sacrifice, with the unbounded devotion to duty exemplified alike in the life of the illustrious General, who, with his weight of 82 years, could not resist the call of the trumpet and rushed to meet the brave Indian army he had loved and led, and whose loss the Empire mourns, and in the lives of the hundreds of thousands of young men who are fighting in a foreign land for the cause of freedom and righteousness against an aggressive militarism which, at the altar of morbid nationalism, has sacrificed the instincts of chivalry, culture and even humanity, and has spared neither sex, nor age, nor learning. Upon you, as men of light and leading, lies the duty of keeping the fire of loyalty constantly

burning, of seeing that no sudden gust of credulous panic or wayward breeze of misrepresentation blows on it, of obliterating the differences that divide the people into camps of conflicting interests, and of seeing that the union of minds and hearts that a common danger has wrought does not wane in the hour of peace. The war is equally pregnant with lessons to the critics of the educated classes. Would this wondrous manifestation of deep and genuine loyalty have been possible but for the influence of education? The educated classes of India are not so convinced of their perfection as to resent honest and sympathetic criticism, however severe, of their faults. But the critic who heaps contempt on the flower of the intelligence of the people, who denies the right of the educated Indian to reflect or represent the views of his countrymen and who seeks to undermine his influence with them, is no true friend of British rule. Nor is this outpouring of loyalty without lessons to the reflecting historian and statesman. It is a demonstration of the British genius for administering foreign countries and of the Teutonic ineptitude for the government of dependencies. The seeds of loyalty are sown not by the autocrat with his mailed fist or by the soldier with his fixed bayonet, but by the statesman who identifies himself with the people, makes their welfare and advancement his supreme aim and object and secures for them justice, individual liberty and all the manifold blessings of a wise, sympathetic and progressive administration.

And now, in the name of the University, I wish you God-speed in your respective spheres of work and the happiness that comes from the consciousness of discharging your duty to your fellowmen and your country to the best of your lights and ability.

Thos. M. S. S.
MS. 20

