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NO. I.

DOGMATISM IN TEACHING-METHODS.

III.

EVERY practical teacher that has a little observation and a little common sense will admit that the mental capacities of children and also of teachers are as diverse as there are individual pupils or teachers. In the building up of man, the several agencies are—heredity, home-training, environment, school-training, and individuality. It is beyond our scope to plunge into all these subjects.

Individuality, though mentioned last of all, is not the least. This is the greatest factor in determining a child's futurity. Individuality should not be confounded with heredity: for, no two children of the same parents, though brought up exactly alike, are ever exactly alike in all their mental progress and moral propensities. Though individuality largely depends upon heredity, and on all the other agencies in education, it forms a separate and very potent agent, by reacting on the rest.

Seeing that individual children widely differ in their capacities, in collective teaching a great problem presents itself to the teacher—how to suit the teaching to all the children in the class? The meaning of this "suiting" must be clearly understood: when his teaching produces the best possible re-

sults with every one of the pupils, due regard being paid to their individuality, then the teacher can flatter himself that he has solved the problem.

With a view to achieve the best results teachers of all ages and countries have ransacked their brains to codify the rules that a teacher should observe in his art and profession. These codified rules are to be found in books on methods of teaching. Each writer on methods speaks with authority, and dogmatically declines to deviate to the right or to the left from the principles he has inculcated. If they are all right, they cannot differ from one another; if they differ, as they do so widely, only one of them can be correct on any one point. But seeing that individualities differ, not only of pupils, but also of teachers, it must be admitted that all the method-writers are right, because each can use his own methods to produce better results than the methods of others.

It is a patent fact that the method that has produced the best results in the hands of one teacher fails miserably in the hands of another. Hence it will be a part of the duty of educationists—and that a most sacred duty—to see that when they prescribe methods, they do not forget the individuality of the teacher on whom the methods are imposed.

Well, how is the individuality of the teacher to be found out? What are the criteria which

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 measure the propriety of a method in imparting instruction? The answer to the first question will be found in the answer to the second. Reason as an inspecting officer enters a school he does not begin to ask by what method the teacher has taught the pupils a certain subject or portion. When in his examination he finds the condition of the school below the average, he will then question as to the methods of instructions employed; and if he is not satisfied with the methods, or if he believes that the poor condition of the school is mainly due to the methods employed, he will then think of instructing the teacher to adopt such and such methods.

In almost every school he will be giving the self same instructions; but at his next visit he does not find them all up to the mark, or to have made equal progress. Thus he learns that his instructions are of greater use to some teachers than to others; and that they sometimes so confound the teachers that their schools deteriorate.

Bearing this experience in mind, the Inspecting officer learns not to be dogmatic in prescribing methods in teaching. We have seen that he does not question about the methods in a school where he is satisfied with the general condition. If he does, he will find that the methods are not exactly what he would prescribe. This also teaches him to be more tolerant and to allow discretion in the teachers and to allow individuality to have its due course; and that there is no royal road to teaching.

Now, we are in a position to answer the questions. The propriety of a method varies directly as the amount of useful knowledge assimilated, and inversely as the amount of pain felt and the time spent in the process. More concisely, the maximum of useful know-

ledge assimilated in the minimum time with the minimum pain shows that the method is the best. Algebraically, the formula will be,

$$M \propto \frac{K}{T \cdot P},$$

where M represents the propriety of the method; K, useful knowledge; T, time; and P, pain. Here the pain is the pain of the pupil and also of the teacher.

Though we have thus been able to formulate the factors that make up the propriety of a method, if there should be the slightest divergence of opinion on any of the factors, the formula loses its precision, and dogmatism will be madness. At least one factor can be pointed out on which there is much diversity of opinion. The term "useful knowledge" does not mean the same with all teachers. If it means what is useful only for the time, much time and energy will be wasted in acquiring knowledge which does not serve in the future, or which does not serve as a foundation to further knowledge. By the term should be understood only that knowledge which is of use for all time, and which forms a foundation to further knowledge and learning. Unless and until educationists agree on this point, and are able to select such matter for instruction, the meaning of the formula must be modified according to the needs and whims of localities and teachers and Inspecting officers and dogmatism must be set aside.

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MS. 14

REFORM IN THE TEACHING OF ELEMENTARY MATHEMATICS GEOMETRY.

IN the last article on the subject it was pointed out "that the reformers wanted to make the subjects interesting and useful by altering the mode of presentation and also the subject matter." Now with regard to the alteration of the subject-matter of Euclid's *Elements*, we cannot, within the limits of a single article, discuss what propositions are useless and how Euclid's order may be changed to advantage. It is enough to say that these questions have been discussed at length by great mathematicians and practical conclusions arrived at. This is what the Senate of the University of Cambridge says on the subject: "The subject in which the influence of the examination schedule has been most felt is that of Geometry: in Arithmetic and Algebra no text-book has been prescribed, but the examination in Geometry has been dominated by the sequence and the text of Euclid. To this predominance may be traced many of those features in the present state of geometrical teaching to which attention has been called of late. In the first place the text of Euclid contains a considerable amount of matter which is of slight importance in the development of the subject. On this account much time has been spent in carefully learning propositions which are of small interest. In the next place, the freedom of teachers has been much restricted by the condition at present imposed of adherence to Euclid's sequence in the proofs of propositions..... The Syndicate are of opinion that it is no longer desirable to insist on the maintenance of Euclid's *Elements* as a text-book. They consider that the time has arrived for giving liberty to those teachers who prefer

other methods of treatment and who do not wish to teach the whole number of Euclidean propositions or to adhere to the Euclidean sequence."

With regard to the presentation of the subject: It was pointed out that many difficulties presented themselves to a beginner of Euclid's *Elements* all at the same time. The reformers propose to separate the difficulties, remove them one after another and thus prepare the way for the clear understanding of the subject. The first difficulty—the formation of geometrical notions—is dealt with in this way. No formal definitions of straight lines, angles, triangles, etc., are given first. The pupils are shown the things themselves denoted by these terms and are asked to deal with them. Thus to familiarise the boys with the notion of straight lines, we give them a number of straight lines, ask them to measure them with their scales and dividers, compare one straight line with another with the help of tracing paper only, draw straight lines of required length and find, by estimation, the length of given straight lines. For familiarising the boys with the notion of angles, the same thing is done—measuring given angles with the protractor, making angles of required magnitude, comparing one angle with another without the use of the protractor (with the help of tracing paper) and estimating the magnitudes of given angles.

In the case of triangles and quadrilaterals the boys may be asked to measure the sides and angles and to find out whether any of these are equal. Now the terms scalene, isosceles, equilateral, square, rhombus, rectangle, etc., may be introduced as occasion arises. After the pupils have described a number of circles of different radii, they may be taught to construct triangles and quadri-

laterals satisfying given conditions. After the construction of each of these figures, the sides and angles must be measured by the pupils and they must see whether they have really done what they were required to do. The necessity for the several constructions in each problem may be brought home to the minds of boys by informal reasoning. After this preliminary course during which the pupils will have become familiarised with the fundamental geometrical concepts and will have learnt to draw neat and accurate figures, they may be led to learn geometrical truths or facts.

These, the pupils are led to discover by experimental or inductive methods and are not made to learn by the deductive process of the Euclidean method. For instance, the teacher, asks the boys to find by measurement or paper-folding, the sum of the angles of a number of triangles and thence leads them to infer that the sum is two right angles. If by this experimental or laboratory method, the various properties of triangles, quadrilaterals, and circles are discovered by the pupils, their powers of observation and spirit of discovery will develop.

After this experimental course in which the pupils will have learnt the geometrical facts contained in the first 34 propositions of the first Book of Euclid, we may begin formal deductive geometry. As a preparation to the introduction of deductive geometry, the pupils must be told, that we gain knowledge of facts not only from experience but also from inference. For instance we infer the presence of fire in a cottage from seeing smoke issue from it. Thus from one known fact we infer others. In the same manner, all the geometrical facts which the pupils have discovered for themselves by measurement and calculation, can be deduced by

assuming certain simple statements (so simple that they require no proof) called axioms, and from definitions. With this statement of what deduction is and a few examples of the same, we may take up the formal definitions, axioms, postulates and the propositions. The definitions will no longer be dry and in the propositions there remains only the difficulty of logic.

After or concurrently with the *Theoretical Course*, the pupils should be taken through a practical course in which they should be taught to do the important constructions (bisection of straight lines, angles, construction of triangles, quadrilaterals, circles satisfying given conditions) neatly and accurately not always by Euclid's cumbersome methods but by the shortest methods of the drawing office. At the same time the pupils must learn to prove that their constructions are correct.

From the foregoing short sketch of the general lines of the modern methods of teaching Elementary Geometry, it will be seen that the introduction of these methods will, far from making Geometry a mechanical thing, make it the interesting and useful subject that it really is. Grave fears were, and I believe, are still entertained by many that the University of Madras have committed a "calamitous blunder" by abolishing Euclid as a text. The fears were or are caused by not understanding the spirit of the reform movement. Perhaps the sight of boys with mathematical instruments in their hands, makes people think that hereafter boys will learn Practical Geometry or geometrical drawing only and that all the advantages of studying Euclid are denied to them. Such fears are certainly groundless.

(To be continued.)

A TEACHER.

THE NEW MATRICULATION SCIENCE SYLLABUS.

A perusal of the Syllabus of Studies in Elementary Science for the Matriculation Examination will present to many a science teacher, the following questions, as to how best he must equip himself to meet the conditions required in it.

1. Whether the time devoted to it as at present, would suffice;
2. What must be done to make the study of the subject interesting and instructive;
3. Whether the materials at our disposal are sufficient for giving experimental demonstrations and if steps could be taken to secure them, what are the portions which ought to be studied from experiments by pupils.

I have tried in the short space that is spared me, to answer in a general way the above questions which have arisen before my mind, on a general survey of the syllabus.

First, notwithstanding the fact that 'sound' has been omitted from the curriculum, still there are many additions made to the old syllabus, such as, simple machines, hygrometry, Boyle's law, etc. Besides these, a careful study of the subject in its details, is required, so much so that pupils ought to be made to evince greater interest in the subject, by a free use of the appliances, both by the teachers and the pupils themselves.

This detailed study of the subject, preceded by experiments by pupils, has to be studied in about 2½ years, the latter part of the 3rd year being given for review. It seems to me and to many other science teachers that, since the subject is a little elaborate and a new one to be mastered by the pupils, teach-

ers could advantageously do selected portions from Physics in the 3rd Form in the form of Object Lessons, to enable the pupils to study in detail the scientific truths, in the next higher class. It would, in our opinion, render the teacher's work easier and simultaneously with that, there would be a better grasp of the subject. It might also be suggested that one more hour a week could be devoted to Science in the IVth and Vth Forms, for experimental lessons by pupils. Now, that Translation hour is not necessary, it could safely be used for the Science classes. As to the medium of instruction in the 3rd and 4th Forms, we would suggest, that teachers might resort to the vernaculars wherever necessary, in consideration of the fact that a new subject has to be mastered in a foreign tongue.

The introduction of Science in the High School Course, is that it might prepare the way for the future specialisation and for training the powers of perception, reasoning and judgment. If the study of the subject ought to aim at the above-mentioned results, as it is indeed intended to be, then, no Science teacher ought to follow in the same groove in which he has been moving on till now.

For a proper teaching of the subject, the Science teachers ought to qualify themselves in demonstrating the scientific truths practically. They must be people who would enter into the work with heart and soul and try to make every lesson, interesting to the pupils. To meet the above want of teachers, qualified in the practical teaching of Science, the University must open up a laboratory somewhere in Madras, where they might train teachers for at least 3 months, in demonstration lessons. This lecture course would not only supply

teachers for the High Schools, but also prepare assistants for the teaching of Science for the Intermediate Examination.

Now, coming to the last question, we note it is a matter for regret that many schools are not provided even with the apparatus necessary for teachers. How then, could we expect practical demonstration from students! Science instruction could be of a real value only when it is pursued on proper lines; hence managers of schools ought to provide their teachers, with suitable furniture and apparatus, to be freely used by the students. New works on Science and scientific magazines must also be supplied to the teachers. The Government also must help the managers of schools in the way of liberal grants to furniture and apparatus. Now, for a proper teaching of Science according to New Syllabus, we conclude by saying that teachers ought to undergo a special training in the University laboratories and that schools must be equipped with necessary appliances. Supposing that a teacher is promised with necessary furniture and apparatus, one might very well ask, what experiments, a teacher would expect from his students and hence what necessary apparatus he would have to suggest to the manager of the school, to supply him with.

There can be various answers to the above question, depending as they do upon the finance left at their disposal; but a school with a fair amount of finance at its disposal might see, if the suggestions herein made would help it them in any way.

It seems to me that every school ought to be provided with a cheap set of meteorological observatory apparatus (£5-15-0). The pupils might be made to record the observations daily and graduate in the squared papers. A

group of five could be given, a balance, a set of weights (British and Metric), and U tubes with which they could find out the sp. gravity of many of the common substances. Models of simple machines could be made locally and even by the pupils themselves. Measurements of area, volume, etc., could be easily studied with their scales and ounce glasses. Lessons on heat could be illustrated by supplying with a centigrade thermometer to every four students. With this and the weights they can find out the sp. heat and latent heat of some of the common substances.

The preparation of gases, the action of acids on metals, bases and salts, of heat on substances could all be well learnt by the pupils at a small cost, spirit lamps and test-tubes only being needed.

The cost of the apparatus required for the use of a class of 30 students comes to nearly Rs. 200, which every manager could very easily spend for the benefit of his school.

I have herein given a rough outline of the method that ought to be adopted for the proper teaching of the subject according to the new syllabus. It might be said, in conclusion that the lessons thus studied would naturally make an indelible impression on the minds of pupils and would greatly help them in the way of handling things in the college classes, where they shall have to specialise in certain branches of study.

A SCIENCE GRADUATE.

ESPIRIT DE CORPS.

THE amount of *Espirit de corps* is considerable in Japanese schools. Teachers as well as boys have to bow to the force of the public opinion of the class. The moral code of the majority of class students is enforced by class-monitors, and pupils acting against the public opinion of the class are ostracised. Fighting and bullying are almost unknown in Japanese schools whilst ostracism by the class is regarded as a disgrace even outside the school world. "In this respect, a Japanese school," remarks Mr. Sharp in his description of the Japanese Educational System "stands in refreshing contrast to an Indian college where the different communities or even the different sections of the same community are in a chronic state of jealousy and bickering." This peculiarity of the Japanese boys is to be attributed to the system prevalent in Japan of training and bringing up the young. Mr. Lafcadio Hearn in his book on Japan draws an interesting contrast between the traditional plan of Japanese education and that of any other country in the world. Almost in every other country the child is restrained and disciplined in the beginning but allowed more liberty later on; as he grows up, he is made to understand how much his future depends on his individual ability and efforts; he has the chance of becoming the friend of his teacher and throughout as discipline is relaxed, the pressure of competition is increased. Japanese education on the other hand aims at training the individual for co-operative action, for the good of the community and that of the nation at large. Every man's merits are calculated by the amount of valuable service and assistance he can render to his country and to his fellow-men. The young child is allowed complete

liberty in the beginning, when he goes to school the easy discipline, so common in Japanese institutions, is largely influenced by the common opinion of his class which is but nominally governed by one or two little captains. Throughout the elementary school course the pressure increases, being skilfully directed, of course, by the class teacher. Then comes the Government school preparatory to the University which is only "a quietly and coldly ordered world where there is little place for the joy of youth and small opportunity for sympathetic expansion, where everybody watches everybody, and eccentricities are quickly marked and quietly suppressed." The public opinion of Japanese schools always favours simplicity of dress and manners. Riding to school in conveyances, dressing in silk, etc., are greatly discouraged.

But how miserable alas! is the present position of our private schools stamped with the seal of the Government Educational Department and managed, in many cases, more like commercial concerns, by municipal, missionary or other private bodies. Everywhere there is an increasing demand for accelerating the quantity of work done. The main issues of this new infection are the Saturday problem, the problem of eight periods' work a day and the still grander problem of struggling to keep up the maximum show of work with minimum expense. The teachers of a school never meet each other except perhaps on the inspection day when they are brought together by the benign influence exerted upon them by the Inspector. Instances are not less numerous where the *de facto* lord of the school—the headmaster—sitting on his pedagogical throne with the invaluable birch rod in his hand—the *insigne*

of his office—often times fondly imagines himself to be the chief magistrate of a district whose peremptory mandates ought to be unquestioningly obeyed by his petty officials and menial servants—the assistants of the school to whom no better place is assigned by the constructive imaginative genius of the head-master. Such odious comparisons which so often fill the stagnant cranial cavity of this peculiar elevated being, often result in the maltreatment of his assistants who are looked upon as his slaves merely because of the pittance they receive from him.

Is the position of an assistant, then, with regard to the head-master, one of equality or servility? Has the assistant sold his freedom and independence, his sense of justice and equity for the jingling of the rupee as Esan sold his birthright for a meal of porridge? These are vital questions which confront and threaten the threshold of the Educational Department and which, therefore, should necessarily attract the attention of the leading educationists of our land. The head-master is as much a servant of the school as his other assistants with perhaps an increased responsibility thrust upon him. Every member of the school is working towards a common aim and all the rules and regulations relating to class discipline and school management are only subsidiary aids for the achievement and realisation of that common end.

Let us now conclude this paper with a detailed description of the suggestive measures adopted in American schools for cultivating and keeping up a healthy spirit of *esprit de corps*. The Principal of Forestville, Chicago, a school in which an excellent spirit prevails, mentions the following elements in the organisation of schools tending to produce school unity:—

- (a) "the weekly meeting of teachers;
- (b) the representation of plays by the upper classes before some of the other grades;
- (c) class visits to other grades, the higher classes being taken down to visit the kindergarten to quicken their love for children;
- (d) the exhibition in the school of the work of former pupils;
- (e) showing the work of the grades on the walls of the landings and stair-cases."

One of the means generally adopted in American schools to bring in a spirit of co-operation, is that of combined work on the part of a class upon a model or illustrative scene representing in detail some portion of the year's reading. School clubs and organisations, the sole purpose of which is to keep up a healthy spirit of *esprit de corps* are always encouraged by teachers and principals. One other form of school co-operation in America is that of mutual helpfulness—a helpfulness towards others of a charitable kind. Boys in these schools always show a feeling of willingness to help their poorer comrades. A child has been known to be unable to buy a writing tablet and before evening five cents have been lying on the table, the givers not wishing to be known. In America artificial bonds between teacher and learner are being snapped. From Fall River comes the report "More and more a community life is coming into the schools. The children see what others can do. When much of the best work of the pupils is continually held before the child, experience shows that he is irresistibly drawn into the more excellent way." Hence boys are really more controlled by this community influence and consciousness than by any obedience to the fiat of a teacher.

A LICENTIATE IN TEACHING.

SCHOOL PUNISHMENTS.

WE often hear it said that there is an unwritten law of the constitution in every community. So also there is an unwritten law according to which teachers in schools are authorised to inflict punishments upon the little ones committed to their tender mercies. The rules of the Educational Department permit the head-master of a school to inflict corporal punishment on students and that for gross moral delinquency alone. Carelessness in the preparation of lessons is not visited with corporal punishment and the Code does not appear to countenance it at all. The rules in this respect are more honored in the breach than in the observance. In some schools many assistants do keep the ferule in contravention of the rules and apply it also both frequently and mercilessly. Are these assistants cruel only to be kind?

When the cane is not used, the fist and the palm take its place more effectually and injuriously. The cowardly teacher seldom approaches an adult with his closed fist, as the defiant and defensive attitude of the grown-up student makes the heart of the would-be assailant sink within him. It is only the helpless little boys between 6 and 12 that are subjected to this brutal treatment.

The most objectionable form of punishment with the fist is the *smack* on the head. The Indian teacher is the greatest sinner in this respect. Nobody ever seems to have put it into the head of the teacher that underneath the hard skull is the brain which is the nervous centre. The force with which the blow descends on the head of the unfortunate student is not regulated according to the age or the degree of hardness of the skull. Young

and old, soft and hardy, are all treated alike by the impartial fist. The eyes protrude from their sockets, the auricular nerves are deadened and a giddiness seizes the poor thing that is the recipient of this shock to his cerebral cavities. Some brutes of teachers are not satisfied with one smack, but repeat the process. I must leave it to the imagination of the readers of this journal to feel what serious injury is being done by the toleration of such punishments in schools. If some boys have become incapable of understanding anything taught to them, I think the unfortunate blows they received from some of their inhuman tutors had rendered them thoroughly incapable of using their brains.

"Pulling the ear" with the fingers comes next in rank to the smack. The mechanism of the ear is very delicate. A rough pull—all pulls are equally bad—might make a child deaf for the rest of his life. I have known cases in which the pull was so forcible that a partial detachment of the skin accompanied by bleeding has occurred. Children have not been able to lie on their sides on account of the pain in the ear.

The third sort of punishment is with the open palm. The back and the shoulder blades are the parts of body of a student that are most familiarly acquainted with this powerful weapon of the teacher. Boxing on the ear is nearly allied to this corrective. I have heard half a dozen blows descending upon the back of a single boy in quick succession. The wretched teacher does not seem to know that the bones of a child are tender and that repeated blows on them with the horny palm of the teacher must produce incalculable harm. Besides, the shock may be so great that the heart may burst.

The fourth—but, according to the laws of the school—the mildest form of punishment,

is putting the little one on the bench. I have seen boys standing from morning till evening. A whole class has sometimes been made to stand on the benches. A standing posture seems to be the worst for cheerful attention to the subject taught. Not unfrequently has it happened that boys who had thus been put on the bench, had fallen down head foremost and permanently injured some part or parts of their body. The standing produces giddiness and the giddiness vomiting and fouling the class-room. The regular work of the class has had to be suspended till the surface is cleaned or the boys remove to a more healthy atmosphere.

In indigenous schools, there are some queer punishments inflicted on students. One of these is called *Kothandam*. A rope is doubled and tied to the roof. The delinquent is made to suspend himself by holding the rope with both his hands. It is something like the trapeze in the gymnastic ground. To this torture is added another. An iron style with the sharp end turned upwards is planted beneath the feet of the boy who is suspended from the rope. The presence of the style is meant to prevent the boy from jumping down. Another kind of torture is the *Garudavahanam*. Here the boy is made to lean his back upon the wall, make one of his knees stand at right angles to the waist with the foot on the ground and the other leg should be made to rest on the thigh of the leg supporting the weight of his body. The posture is of one seated on a chair without bottom, one of his legs being laid on the other.

A third sort is known by the name of "*Kokkupidikkirathu*." The unfortunate wretch is to bend his body, support the weight of it on one leg, raise the other aloft

in the air, plant a finger of one of his hands on the ground and hold the cadjan book with the other for getting his lesson by rote.

Human depravity has invented various methods of torturing fellow-creatures. The school appears to have been the training ground wherein the seeds of such depravity are sown. The teacher is the inventor of these punishments. He sharpens similar intellects.

Many children are unwilling to go to school as a sheep is unwilling to enter a slaughter-house. The twentieth century expects the school to be rendered into a heaven for children and a heaven it may be made to most if not all. The school is a heaven or hell according as the teacher makes it the one or the other.

Headmasters averse to interfering actively for good or ill with their assistants do not seem to pay any attention to the punishments which the assistants freely award to the pupils who have the ill-luck to be placed in their classes. Humanity demands an end to the methods of torture the inventive genius of the schoolmaster brings into vogue.

HUMANITY.

HIGH SCHOOL REFORM.

THE recent regulations of the Madras University have been drawn up more or less on the lines of the Calcutta and Bombay regulations; but would it not be more suitable if changes are made in accordance with the regulations of the Universities of Great Britain and Ireland and other European countries and of America. We fail to see any change worth the name. Our examinations should undergo such changes as will enable our youths to compete for the Home, Indian and Colonial Civil Services. It was

pointed out that changes made in Oxford enabled that University in 1904 to obtain 51 out of 84 places among those who competed for the Home Services; the remaining 33 candidates having come up from Cambridge, London, Dublin and Derby. In 1905 also the same marked success was observable. Oxford gained 36 out of 82 places while Cambridge gained only 28; the remaining places were gained by the others. Under the new regulations of the Oxford University, a limit is set to the number of subjects that candidates can offer. The change from the old system was made to check the growing tendency to cram. We shall show later on how the strain upon the boys can be lightened to their best advantage.

2. During the last twenty years the percentage of failures in the Matriculation Examination of this University has been abnormally large, sometimes amounting to 80%; various causes have been assigned for this. The following are a few among others:—

(1) Total neglect of education in the earlier stages owing to inefficient teaching in the lower classes.

(2) Neglect of vernaculars throughout as an important subject of instruction.

*(3) Teaching of Non-language subjects through the medium of English in the Lower Secondary classes.

(4) Teaching of English as a language subject mainly through grammar compendiums.

†(5) Indiscriminate promotions.

* Want of suitable books is assigned as the chief cause.

† To prevent the evils arising from (5) and (9) no doubt the department is laying down salutary rules.

(6) Multiplicity of subjects in the Matriculation curriculum.

(7) Indefiniteness in the scope and extent of the subjects and especially in the general knowledge group.

(8) Undue predominance of History and Geography throughout the Primary, Lower Secondary and High School courses.

(9) Large classes, which prevent the teacher from giving individual attention to the boys.

(10) Professorial system carried to too great lengths in High school classes.

(11) The boys being kept for too many hours at work.

(12) The boys enjoying too many holidays in the year sometimes amounting to more than half the year.

(13) Absence of healthy control of the home-work of the boys during their holidays.

(14) The low pay of the masters.

(15) Constant change of masters in institutions owing to the managers' desire of working institutions on commercial lines.

(16) Unsuitable text books and the constant change of text books.

3. The above list does not exhaust the whole of the evils. Thus it will be seen that everything that tends to cram the minds of young students with all kinds of facts has been in active operation; while the factors which will develop the powers of observation, reasoning and imagination of students have been neglected to a large extent.

4. The recent tendency in all English Universities has been to make the number of compulsory subjects for the entrance examination as small as possible; and to give the

candidate the option of choosing some out of a very large number of subjects. According to the existing curriculum 12 papers are given extending over 28 hours, and according to the new curriculum 8 papers will be given extending over 20½ hours. According to the new regulations the curriculum of studies for the Matriculation examination is to comprise:—

- (1) English Language.
- (2) Mathematics.
- (3) Elementary Science.
- (4) History and Geography.

Arithmetic and Algebra become one paper. Physics and Chemistry become one paper and a separate minimum in this subject will be required in future. In English language the translation paper has been omitted and Indian vernacular language also loses the translation paper but the only gain is "that the texts prescribed shall be mainly in modern prose." The time honoured Euclid has to give way, and theoretical geometry is to be combined with modern practical geometry; and as if the combination of the Arithmetic and Algebra is not sufficient to distract the attention of the students, "Graphs" should find a place in the Algebra paper. Indian vernaculars mainly depend upon their poetry, and at present we have neither modern prose nor ancient prose suitable as a text book for the Matriculation Examination. Hence the new regulations will land the students and masters in a disastrous muddle, preventing the masters from taking the boys forward slowly and cautiously and preventing the boys from learning anything satisfactorily.

5. We note below the marked difference that exists between the Madras regulations and the regulations of all other universities.

CALCUTTA.

Compulsory Subjects.

- (1) English, 2 papers.
- (2) Mathematics, 1 paper.
- (3) Classical language, 1 paper.
- (4) Composition of the vernacular languages, 1 paper.

Optional.

(5) and (6), 2 out of the following:

- (1) Additional paper in Mathematics.
- (2) Additional paper in the Classical language taken up as subject No. 3.
- (3) History of India: Account of the Administration of British India, and of the Progress of India under the British Rule.
- (4) Outlines of General Geography including the Elements of Mathematical and Physical Geography with the Geography of India in fuller detail.

(5) Elementary mechanics.

In Calcutta the examination consists of 7 papers while in Madras it consists of 8 extending over 20½ hours. In Calcutta boys can take their Indian History paper in the Vernacular language, and option is given to boys to select subjects. In Calcutta boys need not learn English History.

6. MADRAS.

Compulsory Subjects.

- (1) English, 2 papers.
- (2) Mathematics, 2 papers.
- (3) Second Language, 1 paper.
- (4) Elementary Science: Physics and Chemistry, 1 paper.
- (5) English History and Geography.
- (6) Indian History and Administration. (Nothing optional).

7.

ALLAHABAD.

- (1) English, 3 papers, Prose and Poetry, English Grammar and Idiom, Translation from one Indian vernacular into English.
- (2) History and Geography, 1 paper: English History "A Junior History of England" by M. & C. Oman, and Indian History, De La Fosse's History of India for High Schools; Geography: General Geography for Indian Schools by W. H. Arden Wood (omitting Chapters 1 & 2 of the introduction).

(3) Mathematics, 2 papers: Arithmetic and Algebra (one paper); Geometry and Mensuration (2nd paper).

The course in Geometry includes the first four books of Euclid* with easy deductions and at least one half of the questions set shall be such as can be answered from the Text-book of Euclid.

(4) A classical language, one of the following: Sanskrit, Arabic, Persian, Latin, Greek or Hebrew.

8.

BOMBAY.

(1) Languages: 3 papers.

(i) English (a) one or more passages for paraphrase or explanation; (b) questions on grammar; (c) exercise or exercises in composition.

(ii) One of the second languages prescribed for the Higher Examination.

(iii) One of the Vernaculars.

(2) Mathematics: 2 papers; (i) Arithmetic and Algebra; (ii) Geometry.

(3) Elementary History and Geography, (one paper.)

Elementary History of England and India, and Elementary Political Geography.

* Unlike the forward Madras they are still at their Euclid, Translation paper, and have also Text-books for their general knowledge subjects.

General view of the world and with special reference to the British Empire.

(4) Elementary Science, one paper: Roscoe's Chemistry and Lockyer's Astronomy.

9. Taking the Cambridge Local examination for Junior students the only compulsory subjects are:—

(1) Writing from Dictation, and Arithmetic, and candidates are required to satisfy the examiners only in 3 out of 13 *Optional Subjects*.

- (1) English Language and Literature.
- (2) History and Geography.
- (3) Mathematics.
- (4) Elementary experimental science.
- (5) Chemistry.
- (6) Physics.
- (7) Biology or Physical Geography.
- (8) Religious knowledge.
- (9) Latin.
- (10) Greek.
- (11) French.
- (12) German.
- (13) Spanish.

Thus a Cambridge student passes by taking:—

Compulsory.

- (1) Hand-writing.
- (2) Arithmetic.

Optional. (portions set for 1907.)

(1) Section 2. English language and Literature.

(a) English composition, exercises including the composition of an essay, will be set with the object of testing the power of candidates to write clear and grammatical English.

(b) A paper of questions of a general not a detailed character on Goldsmith's 'Traveler,' and the 'Deserted Village' and Southey's 'Life of Nelson.'

(c) English grammar including Parsing and Analysis of sentences.

(2) Section (3). Mathematics: Geometry & Algebra.

(3) Section (6). Physics: Heat, Sound and Light.

In Cambridge the examination in English

consists of three papers of 4 hours duration, in Mathematics of 3 papers of 7½ hours duration, in Physics 4 hours, altogether 15½ hours besides Hand-writing.

10. Again in the London University.

- (1) English
- (2) Elementary Mathematics, and
- (3) A second language are the only compulsory subjects while the candidate is given the option of choosing any 2 out of 13 subjects.

11. Hence we would suggest that three papers in English and a paper in Arithmetic and at least one paper in Elementary Science alone be made compulsory, while option is given to select 3 more papers from the following optional subjects.

- (1) Physics.
- (2) Chemistry.
- (3) Elementary experimental Geometry.
- (4) Elementary theoretical Geometry.
- (5) Algebra.
- (6) Elementary experimental Science.
- (7) Geometrical and Mechanical Drawing.
- (8) Logic.
- (9) Mathematics (more advanced).
- (10) Elementary Biology—Botany.
- (11) Elementary Biology—Zoology.
- (12) Indian History.
- (13) English History.
- (14) Geography of the World in general and of the British Empire in particular.

12. We have in this article dwelt at great length about the evils arising from the multiplicity of subjects in the Matriculation curriculum. With reference to some of the other evils we would venture to suggest that an examination conducted by the Head Masters of High Schools at the end of the Lower Secondary stage with proper curriculum of studies and suitable text-books is the only remedy. The examination in the vernaculars should be conducted by independent bodies like the Madura Tamil Sangam and others and certificates given by them should be accepted by the University. To settle these difficulties, as was once recommended by Dr. Miller, a separate Matriculation Board with a large admixture of experienced and capable Head Masters of High Schools ought to be formed.

S. RAJAGOPALACHARIAR.

VICTORIA UNIVERSITY OF MANCHESTER.

If one were asked what is the aim and what the ends of a modern University, the reply would probably be: First, it must aim at uniting the study of pure science and the application of science to industry and commerce; in other words, it must be useful. Second, to distinguish it from technical schools and colleges, a due and sufficient place must be assigned to the Arts, the Humanities. Thirdly, in order that the net cast may draw to the University men and women from every class of life, the University must be in line with that famous educational ladder whose lower rungs are in the primary and secondary schools of the country. Fourthly, although not strictly necessary, it is well that modern Universities be to some extent localized. The successful ones almost invariably are so; they are brought to the doors of those who need them, and thus the more expensive part of student life—the board and lodging of the student himself—is saved. Our new Universities do aim, must aim, at utility, efficiency, cheapness; if they fail in any one of these, their *raison d'être* is gone. Let none decry these aims of the modern Universities. Beautiful as are the ancient English seats of learning at Oxford and Cambridge, it could never be claimed for them that they have successfully undertaken the higher education of the people. The theory of the educational ladder is an old one; possibly a member of an ancient University formulated it. But it was a Jacob's ladder, ascended only by angels, till the improvement in elementary and secondary education quickened, perhaps even created, the demand for popular Universities.

The first half of the nineteenth century saw the foundation of two modern Universities, Durham in 1831 and London in 1836. They were on freer lines than the older bodies, but London remained for many years a mere examining board, and both were remote from those busy manufacturing centres which have taken in hand the creation of their own Universities of recent years. The first of these newer corporations is Manchester; not in vain has there existed a

"Manchester School." The story of its foundation is interesting, illustrating that strong individualism which has made England great. The Government founded no University to mark and foster Manchester's importance: a private citizen founded it himself. "Ever note, Lucilius," that great individuals, rarely England as a nation, are those that have won and made the Empire, educated it, founded its best institutions. A worthy Manchester merchant, John Owens, acquainted his friend George Faulkner with the fact that he intended to make him heir to his fortune of £96,000. Faulkner declined the honour, and persuaded his friend to found a University in the city where he had acquired his wealth. When Owens died in 1846 his money had been bequeathed for the foundation of a college. The trustees spent five years in giving effect to the testator's will. They purchased Richard Cobden's modest house in Quay Street, furnished it, engaged five professors, of whom one acted as Principal, and two teachers, to act as staff, and advertised for young persons of the male sex to come and be instructed in "such branches of learning and science as are now and may be hereafter usually taught in the English Universities." The first lecture was delivered on March 13, 1851, in the former music-room of Cobden's House. It was a small beginning, yet a great day in the history of British education; for in the half century that followed twelve other University colleges have been established in great centres of population. The members of the staff were attired in collegiate gowns and carried caps in their hands: the trustees sat where the organ had formerly stood; visitors were admitted on presenting their card; and, strange to say, the first lecture was on the languages and literature of Greece and Rome. When the first session closed three months later, there were twenty-five students. Owens had many ups and downs in the first twenty years of its existence. A good story is related of Henry Roscoe, its distinguished Professor of Chemistry. The college was in rather a slum neighbourhood, and Roscoe was standing at the entrance. "Mister," asked a man, "is this th'neet [night] asylum?" "No," said Roscoe dejectedly, "but I fear

it will be soon." A local paper alluded to the college as a "mortifying failure," and another laid the blame of defeat at the door of an ignorant and unworthy populace. Manchester, premier and pioneer of the new Universities, suffered not a little from the lack of efficient primary and secondary education. In 1856 there were not to be found sufficient well educated young men to carry on a University education; Owens had but thirty-three on the books. In these dark days the professors clung on; all honour to their faith and courage. The standard was not lowered, though probably salaries were. One can but admire the practical good sense of the trustees who used Owens' bequest to present the idea of a University college to the citizens of Manchester rather than spend the funds in a building. Success came at last, and in the sixties there came that embarrassment of professors which always proves more encouraging morally than agreeable physically—too crowded class-rooms. An appeal was made to the citizens of Manchester to build their students a college; £80,000 was subscribed, a site purchased in Oxford Road, and the first of the handsome group of buildings which the University possesses was erected under the name of the Owens College. Meantime, Acts of Parliament (1870, 1871) modified the constitution of the new college, defined and strengthened its position. Women were permitted to enter as students. The following year the important local medical school founded by Thomas Turner, and affording education nowadays to some 300 medical students, was incorporated as a department of the college. The statement is simple; even grammatically it is not complex. But those who have had to toil at the grouping of local institutions can testify to the thorny state of the path, the susceptibilities that must be considered, the spirit of vigorous independence which must be gained and enlisted for the new educational body and not alienated from the old. The new buildings were opened in 1873. The occasion was remarkable for a prophecy made by Mr. Thomas Ashton. He believed that before thirty years had elapsed Owens College would see from fifteen hundred to two

thousand students within its walls. On the visit of the *Journal's* representative the regular students numbered: day students, 1,352 (allowing for double entries); evening students, 124 (not including a large number of students attending classes in railway economics, banking, and other commercial subjects).

The main events in the history of the college are fairly well-known. Resting on the bedrock of a charter and constitution, it applied to Parliament for the grant of a University Charter. The Victoria University was founded in 1880, and Owens was recognized as a constituent college. Liverpool was admitted as a second constituent in 1884, Leeds in 1887. A subsequent Charter in 1883 empowered the new University to confer medical degrees.

It seems to be a feature of modern Universities that they require much liberty—indeed, the whole “world to bustle in.” Probably the fact that Government did not found them, that their existence was due to local energy and initiative, their sturdy youth well advanced before Parliament “recognized” their birth, has made it difficult for them to submit to the bonds of partnership in early maturity. Be that as it may, the two elder partners found their growth hampered; they petitioned Government to dissolve the partnership and recognize them as independent Universities. In 1903 Manchester obtained a new Charter as the Victoria University of Manchester, and in the following year the Owens College was incorporated with the University, with elaborate provisions touching its very numerous authorities—to wit: the Chancellor (who is now the Duke of Devonshire), the Vice-Chancellor (Dr. A. Hopkinson), the Court of Governors, the Council, the Senate, Boards of Faculties, and Convocation (1,000 members).

The University has eight Faculties—Arts, Science, Law, Music, Commerce, Theology, Technology, Medicine, and the Department of Education. The number of schools in certain Faculties, specially those of Arts and Science, seems to be legion. Thus in Arts an Honours Degree may be taken in Classics, or History, or English Language and Literature, or Modern

Languages and Literatures, or Oriental Studies, or Celtic, or Economics. In the Faculty of Science the University offers an Honours School of Mathematics (Pure and Applied), of Engineering, of Physics, of Chemistry, of Zoology, of Physiology, of Geology, of Botany. The University Regulations concerning degrees, examinations, and so forth are fearfully and wonderfully minute: they and all the other matters important to those concerned cover 834 large close-printed octavo pages, and form a Calendar weighing 1½ lbs. It requires a page and a half to name the College officials, from the Chancellor down to the Chief College Porter. Eight pages (bourgeois, and not leaved) are needed to name the professors and lecturers; each page has thirty names or thereabouts, so that one may easily see the day of small things is over.

Of the eight Faculties already mentioned, three have been founded since Manchester became a University, namely, Technology (B.Sc.Tech.), Commerce (B.Com. and M.Com.), and Theology (B.D. and D.D.). Music has been added to the other Faculties by special arrangement with the local College of Music. In offering a degree in Technology, the University finds itself able to exact a broader degree of scientific training than would otherwise be possible, a most valuable result. As far as theology is concerned, it is well-known that all modern Universities disclaim the application of a religious test either to students or professors; yet it has been found not only possible, but desirable, to study such subjects as comparative religion, Biblical criticism, how to interpret the Hebrew and Greek Testaments. Certain other subjects, such as “The History of Doctrine” and “The Fundamental Ideas of Religion,” may be studied in denominational colleges under lecturers sanctioned by the University. The usual degrees of B.D. and D.D. are bestowed, the former requiring a three years’ course (for graduates a two-years’ course); the latter, evidence of original research. The clergy of all denominations, including the Established Church, have freely taken up theology. Twenty-three are studying for degrees and twenty take other courses.

The degree in Commerce will perhaps seem strange to teachers, since Education remains merely a department of the University. Apart from this consideration, perhaps, no valid objection can be urged against Bachelors and Masters of Commerce. It must be remembered that even *le fils de papa* can very rarely find commercial instruction in his father’s business; he resembles the apprentice of mid-Victorian days, who might or might not be willing to learn, but could certainly hardly ever find a teacher in the workshop. A young man may take this (three-years’) course before attending business, or while attending business by means of evening classes. The authorities insist on much work, the course covering Political Economy, Geography, Modern History, and Languages, the Organization of Industry and Commerce, Accounting, Commercial Law. Already there are five Bachelors of Commerce and forty-three students at present working in the faculty.

Under the heading Commerce is a course on currency and banking, conducted by a well-known banker. It is possible for bank clerks and others to acquire a general knowledge of the principles and operations of banking, their proficiency in the subject to be certified on the results of an examination. The same remark is true of railway economics, in which a two-years’ course enters into the detail of goods and passenger traffic, formation and working of trains, and kindred subjects. The University has also a dental department, with the degrees of B.D.S. and M.D.S. The degree course usually occupies five years, the diploma course four. The Pharmaceutical course, courses in Public Health and Veterinary State Medicine bring with them valuable diplomas in these departments.

There can be little doubt that modern Universities—at least those of the North—exact a high standard for their degrees. The under-graduate of Oxford or Cambridge who departs with an ordinary degree in his wallet reposes largely on the prestige of residing three years with his beloved mother. A fairly clever school-boy, taking a pretty good place at his Little-go, requires only

a minimum of work to obtain a pass degree three years later; the whole amount could be pushed into the work of a couple of terms. The new Universities harass the shirker industriously when they meet him. They nail him down with their Matriculation Examination, their six courses of Intermediate Grade, four of the Final General, two of the Final Special. These twelve courses must be signed and sealed by attendance and by examinations. But probably shirking is rare; over-pressure is far more likely to be the *bête noire* of the North. It is almost universally held by professors that if a youth desires to shirk work, or sacrifice all at the athletic shrine, he can do so far more safely and agreeably at Oxford or Cambridge.

The historian of our ancient Universities who should happen to write about 2000 A.D. will probably regard it as passing strange that they had no connexion with elementary education. The Scotch system of education was such that village teachers could grind gerunds with anybody, for they had learned the art at four popular and cheap Universities. England had teachers who held University degrees in the middle of last century; but they almost invariably taught in more or less expensive private schools, or in the public schools, so called because, they are large, wealthy, private, endowed institutions for the aristocracy and gentry. This truly grotesque state of affairs, the utter failure of the Universities to educate any but a numerically insignificant proportion of the teaching profession, has been an important reason why Judah should share the sceptre in the realm of higher education. Two hundred students, destined for elementary or secondary education, are at work in the Department of Education; their work will be more fully commented on later.

There is no reason to doubt that the class which has always sent sons to Oxford or Cambridge* will continue to do so, despite the uprise of modern Universities; the exceptions will be trifling. These, broadly speaking, may be said

* In October last, Cambridge had a greater number of matriculated students than ever before.

to draw to themselves a section of the community which comparatively rarely afforded University education in the past, and then usually by means of scholarships from good local schools. The existence of these large and relatively new strata of society from which modern Universities can draw their *alumni* is partly due to improved social conditions in the middle and lower middle class, and in the superior, ambitious portion of the working class. Their young people have received a very fair education in higher-grade and middle-class schools; the strenuousness of the age, the spirit of emulation and competition, impels them to fit themselves for positions in which higher education and a wider outlook are needed. It must not, however, be supposed that modern Universities can at any moment lay hands on an unlimited supply of students of University standard. As yet this is far from being the case. Matriculation classes are provided for the small minority of students reading for Degrees who have not passed the Matriculation Examination before entering the University.

Manchester keeps in close touch with the schools. Large numbers of its professors and lecturers sit on the governing bodies of schools and colleges in Lancashire and the neighbouring counties and also on Education Committees. The cost of education is usually from £15 to £20 annually for an Arts student; from £25 to £35 for Science. There is a very large system of entrance and other scholarships, exhibitions, and prizes. In addition to those drawn from bequests, sometimes to the University itself, many of those given by various County and Borough Councils are tenable at the University. The list of fellowships, scholarships, exhibitions, and prizes speaks well for the confidence which the University inspires. Its zeal and efficiency are under all men's eyes; approbation and encouragement take the form of money aid to students and to professors. The fellowships and scholarships number about seventy-five, varying from £25 to £150 in annual value, and reach the satisfactory total of £4,650. It may fairly be said that the young man or young woman, who possesses talent, and the qualities necessary to use and

develop it, need not to-day go without a University education.

The sums above mentioned refer to the education of young people who live at home. To meet cases where this is not possible, Owens has, or is connected with, two halls of residence for men and two for women. Dalton Hall, established by the Society of Friends, is a handsome building capable of accommodating fifty students at a cost of £90 annually. Each inmate has a separate study. Hulme Hall accommodates forty students at £63 per annum. Ashburne House is for women students, fees 38 to 50 guineas, according to accommodation; while the Victoria Church Hostel, primarily intended for students at the University Training College who are members of the Church of England, charges only £15 per annum to each resident as supplementary to the grant of £25. The University keeps a list of suitable lodgings for students not accommodated in hostels.

Of recent years there has been improvement in the common life, better arrangements for the comfort of students who come in from suburbia, and must pass the day at the University. There is a refectory, common rooms, an admirable athletic ground of twelve acres, though unfortunately at a considerable distance from the college. No social difficulty has been felt. Perhaps Britons, viewing their social conditions from a near and often untravelled standpoint, scarcely realize how democratic they really are. The students are on the point of erecting a large Students' Union, with men's and women's departments and common rooms for both sexes, at a cost of £20,000.

The finance of a great college is not without interest. Manchester has a capital fund of £1,100,000, including the buildings, valued at £400,000. Annual revenue: Government grant, £12,000; ditto (for examination), £2,000; City Council, £4,000; Lancashire County Council, £1,000; various other bodies, £1,300; endowments, £16,400. Total receipts, £68,000.

Of recent years the salaries of professors and lecturers have been raised; assistants and demonstrators have been appointed in order to afford more leisure for research and advanced work

In this latter respect Manchester stands high; post-graduates and graduates of other Universities come and group themselves round famous professors for research work. In the Government return already alluded to, the Committee have recommended that, as Liverpool and Leeds only receive £10,000 grant per annum, Manchester should also descend to £10,000 instead of £12,000, and this sum be regarded as a maximum for all University colleges. None of the professors whose names and titles to distinction are enumerated on the eight pages of the calendar, nor yet one of the thousand graduates who go to make up Convocation, has been able to follow this reasoning, or accord the proposal the advantage of his approval; and it is to be hoped, in view of the work done at Manchester and the superior number of her students, that Parliament will turn a deaf ear to the cheese-paring policy recommended for higher education.

The view of the University buildings, with a considerable frontage on Oxford Road, is imposing, and would have been more so if in the early days the authorities could have afforded to purchase a larger site, mapping out the space on the lines of possible future development. But this is a counsel of perfection, which only experience teaches, and which is always difficult for a youthful institution to follow, when it has yet to do battle with many foes and particularly with lack of funds. The Manchester Museum has been housed in Owens College for the last forty years, and has now a large frontage on Oxford Road. The outer and older buildings present a gloomy appearance, being covered with a thick coat of greasy soot and overarched by a grim, low-hanging sky, that seems as if it could rain ink at any moment. The main entrance from the quadrangle leads by two narrow staircases to the main corridor, and is decidedly mean and small. The Whitworth Hall was opened in 1902, and the event was utilized to commemorate the Jubilee of the College, when sixty-five Universities sent congratulatory telegrams and addresses to Manchester. On that occasion the late Sir Richard

Jebb, no mean authority, made a speech in which he alluded to the just balance maintained by Owens College between science and letters, pointing out how strong was its position in classics, English language and literature, in modern and oriental languages, in philosophy and history, and to the deserved distinction of professors and past students in these subjects.

The hall is a fine example of the genius of Mr. A. Waterhouse, and greatly adds to the beauty and dignity of the University buildings. At the north end is an organ presented by Mrs. John Rylands. Another new and handsome building is the Christie Library; it is simple, yet dignified in style, and houses 109,000 books. Many of the new laboratories—notably the physical and the departments of zoology and botany—are models of what such structures should be. Spacious, light, convenient, easy of access, they appear to possess every merit. The professors would seem to have known what they wanted and to have seen that they got it. Such a remark does not, of course, apply to all departments. The Government inspectors comment upon the limited accommodation of the engineering department, and state that its proper development is impossible under existing conditions. The authorities have, therefore, secured a much larger site close to the University; and when the new engineering department is completed the accommodation will be quite doubled, everything having been foreseen and provided in accordance with modern requirements.

Few things in my brief visit were more striking, apart from the vastness and general excellence of the buildings, than the character and capacity of the professors. One felt that it was not all bustle, mere preparation for business, the need to equal or surpass great competing nations in the field of industry; but that here, too, under Manchester's heavy, sootladen skies, are men who remember that it has always been England's pride to form character, to train her sons not only for business and professions, but for life. Several of the professors spared valuable time to accompany me round their labora-

tories and explain some of the features of their work. It was good to learn that even classes of school children and groups of studious persons are not infrequently accompanied round portions of Manchester Museum (housed in a University building), and that the authorities arrange to have some capable officials to explain objects and specimens that will interest and instruct them. In the Botanic Section the Council has appointed a member of the staff to study certain diseases of plants and afford information by post to colonial and other correspondents. It was in the society of the Professor of Zoology, who showed me over the admirable laboratory of his section, that I learned an economic zoologist is now at work on the story of the house-fly and its evil-doing: the poet who writes on its merits and beauty must henceforth be one who turns his back on scientific research.

The following table has been constructed to show the numbers of students in the various Faculties and Departments entered up to November 1, 1907:—

1907-8.			
I. Total Entries—	Men	Women	Total
Faculties other than Medicine and Technology ...	689	298	987
Faculty of Medicine ...	268	11	279
Faculty of Technology ...	109	1	100
Total (allowing for double entries)			1,352
II. Evening Classes ...	101	23	124
Numbers in each Faculty (exclusive of Evening Students), 1907-8.			
	Reading for Degree Course	Other Courses	
Faculty of Arts ...	314	...	67
Science ...	303	...	88
Law ...	21	...	21
Music ...	3	...	—
Commerce ...	33	...	10
Theology ...	23	...	20
Medicine ...	148	...	131
Technology ...	(Not classified as yet.)		

In conjunction with these figures it may be well to note that the population of Manchester is 862,300; the University draws, of course, from many of the surrounding towns besides.—*The Journal of Education*.

AN EASY WAY OF CORRECTING COMPOSITION.

During my recent visit to America, while I was searching for some easy and effective method of correcting composition, I was struck by an experiment that was being tried in some towns, and for which many teachers claimed unqualified success. We all know how, after we have spent some hours in correcting a set of exercises, more often than not the pupils, in a lackadaisical fashion, see how many marks they have gained, and then put their papers aside without looking at their corrected mistakes. The Americans are nothing if they are not practical. They do not like their labours to be thus spent in vain; and so they have devised a delightful plan of saving the teacher hours of trouble. I do not say whether the plan is practicable or not, but I should like teachers to try the experiment in England—if inspectors and head masters will allow them—and, after a year's honest trial, to chronicle their results.

I have already withheld the secret too long from the reader. Let me proceed.

In many schools in Boston, New York, and New Orleans the following method of correcting composition (or some modification thereof) is in vogue. An hour and a half a week is assigned to the composition exercises, which are done entirely in school.

In the lower grades—i.e., with children, say, up to the age of eleven—half an hour is spent in writing the exercises, another half in correcting, and a third is used for copying the corrected exercises. In the upper grades—i.e., between the ages of eleven and fourteen—an hour is devoted to the writing of the composition and half an hour to the correction, the recopying being dispensed with. During the writing the teacher goes round and corrects, here and there, individual mistakes. The children write as much as they can in the given time, and then, after the writing—i.e., during the half hour set aside for correction—they exchange their papers, and their class-mates make corrections under the direction of the teacher. The children thus take

an active part in the correction of their fellow-pupils' mistakes. It is urged that the child is by this means put into an active attitude, and not, as he usually is, into a passive one. There is no doubt the members of the class pay serious attention to the criticism of their fellow-pupils. They are not apathetic—as they are, curiously enough, with respect to the teacher's corrections. This fact I am sure of. "Some mistakes go unmarked?" I said to one teacher. "Yes, certainly!" was the reply; "What of that? Practically all mistakes go unmarked by the child when they are marked by the teacher. Try the plan and watch the result. The child will gradually lose his indifference and be on the *qui vive*. He will discuss his mistakes with his fellow-pupil."

The question will naturally arise in the reader's mind: How is it possible for the child to correct the mistakes? First, the class must be taught how to correct them. The points to look out for should be put on the board. "Beginning with the most obvious things," says Mr. Clapp, of the George Putnam School, Boston (who, by the way, inaugurated the scheme), "such as the proper mark at the end of a sentence, the capital at the beginning, the separation of paragraphs, suitable margins, the use of capitals, the spelling of common words, the apostrophe, the list will eventually include the misuse of words, repetition of words or phrases, unrelated facts, agreement of verbs with subjects and of pronouns with antecedents, &c." Some mistakes are anticipated—e.g., the spelling of certain words that are bound to come in the work. Besides, the dictionary may be used in case of doubt. In many schools I found every pupil provided with a "Webster's Smaller Dictionary." Every classroom, too, had a "Webster's International" ready for reference on a lectern. As a rule, however, only one type of mistake is corrected at a time. Many teachers urged as a principle of prime importance that not every mistake was to be corrected. For instance, if lessons on punctuation or paragraphing have recently been given as part of the progressive course of study, then punctuation or paragraphing will engross the attention in the correction. Other obvious

corrections will be made, but the one type of mistake is noticed beyond all others.

The poorest compositions pass at times into the hands of the best scholars, and *vice versa*. Each paper is corrected, wherever possible, by two pupils, and then, after the signatures are affixed, returned to its owner. The children are then allowed to discuss their mistakes with those who have corrected their papers, the arbitration of the teacher being called in where necessary. Some teacher, no doubt, will object: "Yes; I am glad you say the arbitration of the teacher should be called in. Poor teacher! how often the necessity will arise!" I grant there is a disciplinary difficulty unless the changes are limited between two; but, after all, the military form of discipline is not always so rigidly necessary. A few minutes' mutual discussion among the pupils will not injure the discipline of a good disciplinarian.

Finally the papers are handed in to the teacher who reads some of the compositions only each time, to see how the pupils are progressing, and what lessons to give to prevent the same typical and general mistakes. All the papers are not read at a time. A few—say a fourth—selected on each occasion will make it possible for the whole to pass under the teacher's supervision in a month—not a very arduous task. Sometimes one or two are read in class and submitted to the general criticism of the class and the teacher. The teacher is not merciless, but remembers that criticism should be constructive as well as destructive: praise should be interspersed with blame. The children criticize very outspokenly in America. If oral work were encouraged here, the free and mutual criticism of the pupils would make the correction of the composition by the children more possible. Matters of style, of course, demand the teacher's attention; but even here something may be done. Let me again quote Mr. Clapp:—

In training the judgment of the children to recognize the best sentences in a composition the teacher begins by writing on the blackboard from a child's paper a sentence which is better than

the average, and showing how it is better than some other ways of telling the same thing. Then she selects some poor sentences, and allows the children to suggest how they may be improved. She also takes occasion to show the class some clear and graceful sentences from good authors.

Let me conclude by giving an extract from the New Orleans Syllabus in English, which is handed to, and contains instructions for, every teacher in the elementary schools of that town.

To prove of value in improving the expression of the pupil, written work must be corrected in the class-room. It is a mistake for the teacher to make the corrections. It often happens that, after the teacher has performed the labour of correction, the errors are merely glanced at, and the paper is thrown aside. To derive any benefit from the correction of written exercises the pupil must participate in the work, be taught to recognize his faults, and learn to correct them. Lessons specially devoted to the criticism and correction of written compositions should be given. Errors common to the class should receive class criticism; those peculiar to the individual require individual attention. Correct only one kind of error at a time, but have the correction made intelligently, and not mechanically. Aim at giving the pupil the power to correct his own errors. The application of the foregoing principles to the correction of written work ought to save considerable labour on the part of the teacher, and bring about better results.—*The Journal of Education*.

OUR ENGLISH LETTER.

BRISTOL, Dec. 1907.

Contributions to the literature of the Education Question are still being made. (the word 'literature' we use here in its widest and all-inclusive sense as appears from the context). Each side still misunderstands the other. It seems almost impossible to find common ground for the contending parties. Each attacks the other at points where little defence is offered, the essen-

tials remain unassailed and secure. Compromises are suggested with the best of intentions and the most futile of consequences. Mr. T. C. Horsfall has made an appeal to Free Churchmen through the *Spectator*. His complaint is that the Golden Rule has never been applied to the question. "It cannot be doubted that if we Protestants wish to do to these people as we would be done by, we shall use all our influence with the Government not only not to deprive Roman Catholics and anti-Protestant Anglicans of that which they believe to be necessary for their children, but also to cease to compel them to pay a price for the training of their teachers and the religious instruction of their children which we Protestants do not have to pay for our teachers and our children. The Golden Rule does not make it our duty to allow our children to have the kind of religious instruction desired for them by priests and clergymen: it is only the wishes of parents that it is our duty to comply with." But Mr. Horsfall's appeal, though unexceptionable in aim and spirit is vitiated by one or two fundamental misapprehensions. For instance, Cowper-Templeism is not Protestantism—Again none of the Free Churchmen expect the peculiarities of their creed to be taught at the expense and by the servants of the State. And the demand made in the name of the parents is one that has until recently not been denied so much as ignored alike by the Churches and the State. It is a totally new principle, and one not to be accepted without stringent examination of what it entails. The final solution of this most vexed of problems must needs be something of a compromise. Single-school areas must be completely emancipated from denominational influence, but perhaps it will be possible to have special types of schools where there is sufficient accommodation to make effective choice by the parents possible. The history of the question and the present divided state of opinion make it essential that while the main principles of a national settlement should be rigorously upheld there should be generous treatment in regard to the details.

Women have been to the fore of late in the political world. Their claims to a vote have been loudly enough insisted upon. But the tables have been turned on them in one direction at least. An important post, that has always been held by a woman, has been almost given over to the enemy. We refer to the Principalship of the the Avery Hill Training College for Women. The task is undoubtedly a heavy one, for there are no less than 320 girls students at the College, but it is somewhat surprising to learn that in one year three principals and five matrons have been appointed. In the discussion on the matter in the London County Council Education Committee it was stated that two-thirds of the women colleges were officered by men, but the force of this was lessened by the explanation that many of these were denominational colleges with a clergyman for principal.

The subject of continuation schools is one of great importance. Professor Sadler has studied the question at home and in Germany with great thoroughness and has just published his findings in book form. We are continually told that education must be a life-long process. But how can we expect the ordinary boy or girl on leaving the elementary school to keep up a semblance of interest in book learning? They are immediately caught up in the relentless wheels of our economic machine. There is a continuously growing demand for unskilled hands, as the work of distribution becomes more and more important, the labour being done by machinery. This demand is supplied by the boy and girl workers, the unskilled product of the elementary school.

Germany has compulsory continuation schools, and is beginning to hold them in the day-time instead of at night. She takes the lead in this, as in most other educational matters. But in England, out of 4,750,000 boys and girls between 14 and 21 years of age, the total number of continuation-scholars is 390,000 and of this number only 30,000 are day-scholars: the others are

merely more or less dilatory scholars at 'night-schools,' for the attendances of those enrolled as members are by no means universally good: they come and go at their own sweet will: various sops are held out to them to induce regular attendance, but the result is not always satisfactory. Mr. C. E. Stockton gives us a careful account of the continuation schools of Munich which are the most successful in Germany. Every boy up to 18 years of age, and every girl up to 16 is compelled to attend. And the important point is that this attendance is in the day-time, the boys for at least eight hours a week, and the girls for at least three hours. Parents and employers simply have to bow to the law, however desirous they may be of exploiting the children. And the schools are of such a nature that the children gladly attend. They are model schools in every way. All the surroundings are beautiful, and the method of instruction is truly educative. Take the instance of linoleum making which is one of the trades of Munich. They are taught their business in a most comfortable apartment where the eye is trained to the appreciation of beauty and the hand is trained to skill, on the table of the room are physiological models. They are there to instruct and warn the boy against the dangers of the trade: he is shown how to preserve his health while following his occupation. This is the way in which Germany grapples with the question that we in England are tinkering with. But there are signs of some attempt being made to bring this crying need to the notice of the people. We have heard a good deal of the need of the educational ladder by which the brilliant pupils may reach the University: but we also want, quite as urgently, a higher general standard of education, a raising of the minimum. Every unit of the nation must have his chance, and not on leaving school, untrained and unequipped, at an absurdly early age, be sucked down immediately in the maelstrom of industrial chaos.

The position of a Minister of State receiving all manner of deputations is hardly an enviable one. The other morning Mr. Herbert Gladstone received deputations on the Licensing Question from the Licensed Victuallers Association, the Free Church Council and the Barmaid's Protection Association. What if the deputation had become confused in the lobby! The picture of Dr. Clifford leaning on the arm of a director of Burton's would raise a smile from the most austere. But it is not of these that we wish to write, but of a deputation from Manchester to protest against the proposed reduction of the Treasury grant to Victoria University, Manchester. It is one of those cases where each side obviously has a good case. Manchester had every right to protest against any reduction of their £12,000 grant. On the strength of it they have encouraged post-graduate research and incurred expense in so doing. The city does all it can to supply funds for higher education. Out of a 6s. 5d. rate they spend 1s. 8d. on education. Manchester is taking a high place among the Universities. It ranks higher in many respects than Leeds or Liverpool or Birmingham. On the other hand Mr. Asquith's position is very clear and straightforward. He has £100,000 at his disposal, and this sum is not being diminished by a penny. A revision of the allocation of the various grants was announced some time ago, and the question is merely one of settling the comparative claims of different institutions. While Manchester is naturally only concerned for itself, the Treasury has to think of all alike. There is no reproach to Manchester; its good work is fully recognized. Some time ago, however, under the Conservative administration it was decided to rely on an independent committee of experts. And this committee suggested £10,000 as the grant due to Manchester, and suggested also the desirability of fixing a maximum grant in view of the likelihood of the rise of new claimants from time to time. But it is instructive to notice the rapid rise of the Manchester grant: a few years ago it was only

£3,500: from that it was raised to £6,000 and for the last two years it has been £12,000.—*Floreat Marounia!*

Indian Educational Notes.

MADRAS UNIVERSITY, MATRICULATION EXAMINATION, 1907.

THE following is the text of an appeal addressed to the Vice-Chancellor of the University of Madras by Dewan Bahadur K. Krishnasamy Rao, C.I.E., Retired Dewan of Travancore; Mr. P. S. Ganapathi Aiyar, F.M.U., Retired Deputy Collector; Dewan Bahadur L. A. Govindaraghava Aiyar, Vakil, High Court, and sometime Member of the Legislative Council; Dewan Bahadur P. Rajaratna Mudaliar, C.I.E., Retired Inspector-General of Registration; Rai Bahadur P. Ananda Charlu, C.I.E., Vakil, High Court, and sometime Member of the Supreme Legislative Council; and Mr. P. Theagaraya Chetty, Trustee, Pachaiyappah's Charities:—

SIR,—We understand that there has been an extremely and unduly low number of passes in the History and Science branch of the recent Matriculation Examination, and that owing to some difference between the Board of Examiners and the Syndicate, the publication of the results is being delayed. We further understand that the results are very fair in the other subjects—subjects a pass in which is a real test of the fitness of the candidates for entrance into the College departments. If, as is rumoured, over 50 per cent. have passed both in English and Mathematics and about 70 per cent. in the Vernacular languages, there cannot, we respectfully submit, by a greater proof of the candidates' general efficiency and intelligence. And any small deficiency in consequence of which the minimum has not been secured in the History and Science subjects on the part of the otherwise successful candidates might very well, we consider, be condoned by the Senate. It also passes our comprehension how boys who stood the test in really important subjects so successfully should have fared so badly in History and Science.

We believe that our request is not unreasonable, and such contingencies appear to have been provided for in the new regulations.

We therefore, pray that you will be so good as to bring about a meeting of the Senate to consider the advisability of passing in History and Science such as have been successful in the other subjects or to moderate the results of the last Matriculation examination as to obviate unjust and unnecessary hardship.

We make this request in the interest, primarily of the students seeking University education, but ultimately in the interest of the University itself. It is not good, we consider, for University edu-

cation to become unpopular owing to the authorities concerned omitting to take decisive steps to check the want of proportion in the examination results and thus indirectly helping to cause avoidable hardship.—*The Hindu*.

MISS P. F. Parsons, Assistant Inspectress of Girls' Schools, Madras Girls' Range, has privilege leave for one month with effect from 1st February 1908.

MR. C. A. Wilkinson, Lecturer, Kumbakonam College, has furlough for one year from the 17th January 1908, in continuation of the Christmas vacation of the College.

PROVINCIAL EDUCATIONAL SERVICE.

MR. S. A. Steele, is promoted from the 6th to the fifth grade.

MR. K. P. Guruswami Aiyar, B.A., is promoted from the 7th to the 6th grade.

MR. V. R. Venkatarama Aiyar, B.A., L.T., is promoted from the 8th to the 7th grade.

MR. M. Venkataratnam, B.A., is promoted from the 9th to the 8th grade.

KHAJA Khan Sahib Bahadur, B.A., is promoted from the subordinate service to the 9th grade (rank 7), vice Mr. Hart, promoted.

MR. B. Raghavendra Rao, B.A., is promoted from the subordinate service to the 9th grade, (rank 8).

MR. T. Krishna Rao, is to act in the 9th grade.

Promotion of first four officers to take effect from 3rd October 1907, the date of retirement of Mr. K. Sundararama Aiyar, that of the fifth officer from 17th January 1908, and that of 6th and 7th officers from the date of taking charge.

MR. T. Sankara Rao, B.A., Lecturer, Rajahmundry College, is to be Lecturer, Kumbakonam College, vice Mr. K. Sundararama Aiyar, retired.

MR. B. Raghavendra Rao, B.A., Assistant, Presidency College, is to be Lecturer, Rajahmundry College, vice T. Sankara Rao, B.A.

MR. C. A. Wilkinson, B.A., Headmaster, Central High School, Mercara, is to be Assistant Inspector of Schools, Ceded Districts division, vice Mr. T. S. Ince, retired.

MR. H. W. Callaghan, B.A., L.T., Assistant Inspector of Schools, Presidency division, and Acting Headmaster, Central High School, Mercara, is to be Headmaster of that institution, vice Mr. C. A. Wilkinson, B.A.

MR. D. A. Hobday, B.A., Assistant Inspector of Schools, Madura division, acting in the Presidency division, is to be Assistant Inspector of Schools of the latter division, vice Mr. H. W. Callaghan, B.A., L.T.

KHAJA Khan Sahib Bahadur, B.A., Sub-Assistant Inspector, Madras Muhammadan Range, and Acting Assistant Inspector of Schools, Madura division, is to be Assistant Inspector of Schools, Madura division, vice Mr. D. A. Hobday, B.A.

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MR. K. R. Duraiswami Aiyar, B.A., Assistant Inspector of Schools, Tinnevely division, is to act as Lecturer, Kumbakonam College, during the employment of Mr. Hart on other duty or until further orders.

MR. T. Krishna Rao, Sub-Assistant Inspector of Schools, Mayavaram range, is to act as Assistant Inspector of Schools, Tinnevely division, vice Mr. K. R. Duraiswami Aiyar, B.A.

Appointments of 1st and 3rd to 7th officer to have effect from 17th January 1908, and 2nd and 8th officer from the date of taking charge.

MR. F. E. Morgan, is to be temporary Professor of Civil Engineering, College of Engineering, Madras, with effect from 13th November, 1907.

MR. A. A. Hall, Principal, Teachers' College, Madras, has been permitted to return within the period of his leave.

THE privilege leave granted to Mr. S. Krishnamachari, Sub-Assistant Inspector of Schools, Vinukonda Range, is cancelled.

MR. P. Subba Rao, Headmaster, Board Lower Secondary School, Palkonda, is appointed with the approval of the President, District Board, Vizagapatam, to act as Sub-Assistant Inspector of Schools, Vizagapatam Range, in the probationary class, during the employment of Mr. P. Appalarasayya Pantulu, on other duty or until further orders.

MR. M. Hanumanta Rao, Headmaster, Government Training Schools, Malappuram, and acting Sub-Assistant Inspector of Schools, Hospet Range, is appointed to act as Sub-Assistant Inspector of Schools, Bellary Range, in the probationary class, during the employment of Mr. S. V. Melagiri Rao on other duty or until further orders—to join on relief from the Hospet Range.

It is gratifying to note that Mr. C. N. Subbramaniam Aiyar, Sub-Divisional Officer, P. W. D., Madanapalle, has on the grand occasion of the marriage of his son and of his daughter recently celebrated, been pleased to promise a prize endowment of Rs. 25 to the Madanapalle High School. May such worthy examples be followed by others all over the country and discriminative charity flourish, to the benefit of each and every local charitable national institutions.

This High School has recently been manned by a trained Master of Arts and by a trained Science B.A., who entered on their duties on the 20th instant.

THE Zemindar of Pollavaram was kind enough to present an almirah for books to the High School and to promise a full supply of his publications.

THE following important Order of the Government of Madras has been issued:—

Under Rule 47 of the Educational Rules (Fifth

Edition), a pupil who has attended a recognized elementary school may be transferred to a secondary school, provided he has obtained an elementary school-leaving certificate endorsed 'good', or in other words, has gone through successfully the fourth standard of the elementary school; but no boy so qualified will be permitted to join a secondary school at a higher stage than the fourth class, although he may have reached a higher standard in the elementary school. The Government were of opinion that this regulation was essential in order that a boy might reap the full advantage of secondary training; and though doubts were raised as to its success in practical working, it was decided to give the rule a trial. In his speech in the course of the debate on the financial statement in the Legislative Council on the 10th April last, the Hon'ble Mr. Logan, the Acting Director of Public Instruction, explained that this was the attitude which the Government desired to take.

2. The Director of Public Instruction (Dr. Bourne) now represents that in order to facilitate the classification of schools under secondary and elementary education without causing undue hardship to residents of the remoter localities which are unable themselves to support a secondary school and to ensure the success of the scheme inaugurated by the new Educational rules, the rule regulating the transfer of pupils from elementary to secondary schools should be relaxed. He points out that most of the lower secondary schools in small places, though mainly intended for the education of the masses, and consequently elementary schools in the strict sense, expect to be classed as 'secondary' under the new rules, the main reason being the hardship which will be entailed on the few pupils who wish to continue their studies beyond the elementary stage. Under the existing rules, such pupils would, in the event of their school being classed as elementary, be practically obliged to leave their homes when about ten years of age or, at any rate, three years earlier than if the school were classed as secondary. The Director of Public Instruction therefore considers that the enforcement of the existing rule 47 will be a hardship to many and will prejudice the interests of elementary education; and he proposes that the headmaster of a school into which a pupil seeks admission should at any rate for the present be authorized to place him in the class for which he is found fit, subject to revision by the Inspector.

3. After a careful consideration of the subject the Government are prepared to accept the proposal of the Director of Public Instruction to modify the existing rule, subject to certain restrictions. They do so, however, with some reluctance, as they are somewhat doubtful as to the possibility of preventing the course of instruction in the higher elementary school from remaining a mere preparation for secondary course. They rely upon the Inspecting officers of all grades to do their utmost to check this tendency and to endeavour to secure the development of the elementary school on lines calculated to fit the masses for their position in life

and to foster their intelligence rather than to prepare them for an examination.

The new rule lays great responsibility on the headmasters of secondary schools, and the placing of a pupil newly admitted from an elementary school in the class for which he is really fit is a duty that the Governor in Council trusts they will not shirk.

The hard and fast rule now abrogated has been very generally considered to place an artificial barrier in the way of secondary education. This was by no means the intention of the Government who desire on the other hand to do everything that lies in their power to encourage secondary education so long as it is thoroughly sound and so long as the cost thereof is borne to the fullest extent possible by the recipients and not by the tax-payer at large.

4. The following will accordingly be substituted for rule 47 of the Educational Rules (Fifth Edition):—

"The headmaster of the school into which a pupil is admitted shall place him in the class for which he is found fit, subject to revision by the Inspector. He shall prepare and submit to the Inspector at the next annual inspection a statement showing the previous school history of each pupil admitted since the last inspection."

His Highness the Maharajah of Mysore has given a donation of Rupees one hundred to the Ramakrishna Students' Home, Mylapore. In making it, the Assistant Private Secretary to His Highness, in his letter to the Secretary to the Home observes:—"In response to the appeal made in your application of the 7th instant, I am directed to hand you herewith a sum of Rs. 100 which His Highness the Maharajah has been pleased to sanction towards the funds of your institution. His Highness hopes that the institution which has so modestly begun work in a desirable direction, viz., that of supplying a home in Madras for indigent students from the mofussil, will continue in its good work and flourish. Kindly own receipt of amount and oblige." We hope that the public will come forward with liberal donations to this deserving institution.

A MEETING of the Executive Committee of the Muhammadan Educational Association was held recently at the Anjuman Buildings with the President, the Hon'ble Mr. Justice H. T. Boddam in the chair. Messrs. Khan Bhadur Walji Laljee Sait, Khan Bhadur Ravooof Ahmed Saheb, Hajee Mir Abbass Ali Saheb, T. Gansham Singh and A. Hameed Hassan, B.A., LL.B. (Alig.), Honorary Joint Secretary, being present. After the minutes of the last meeting were read and confirmed and monthly accounts for the month of December, 1907, were passed, Mr. A. Hameed Hassan, Joint Secretary, announced the receipt of Rs. 115-2-8 from Mr. T. Aminuddin being the profit on the donation of Rs. 1,000 deposited with him and that of Rs. 35 from the Secretary of the Service Corps being the col-

lections made by members on the last Kutba Day. Recorded with grateful thanks. The Committee unanimously resolved to offer its sincere congratulations to Mr. Karamath Husain, Barrister-at Law, on his elevation to the Judgeship of the Allahabad High Court, to Mr. Syed Husain Bilgrami, B.A., on his obtaining the Companionship of the Exalted Order of the Star of India, and to Mr. Muhammad Azizuddin, Collector of South Canara on the bestowal of the title of Khan Bahadur.

The following Government Order on the subject of Government Grants in aid of First and Second Grade Colleges for University Education has just been issued:—

Grants aggregating Rs. 2,77,500 will be allotted in the years 1907-1908 and 1908-1909 to first and second grade colleges (a list of these is attached to the Government Order) out of the special grant placed at the disposal of this Government by the Government of India in aid of University education. The question of a grant to the Pachaiyappa's College, the Zamorin's College, Calicut, and the Raja's College, Parakkimidi, will be deferred for further consideration. The Director of Public Instruction will be requested to ascertain from the Court of Wards whether it is prepared to sanction, out of the funds of the Parakkimidi Estate the amount, estimated at Rs. 6,000, required for establishing the college on a proper basis. Of the total amount allotted, a sum of Rs. 2,24,000 will be paid in the current year. The balance will be paid in 1908-1909. Before the works on which it is proposed to incur expenditure from funds assigned to colleges under this order are taken in hand, the governing body should obtain the general approval of the Director as to the objects on which the grant is to be expended.

The Madras Government has added Note to the Educational Rules to the effect that "the presence of pupils unprotected from small-pox shall be regarded as sufficient cause for withdrawal of recognition."

On a reference made by the Director of Public Instruction, Government have passed orders recognizing the class of people known as "Pattapuvandlu" in the Nellore district as the same as Pattanavars included in the list of Backward Classes given in Rule 15 of the Grant-in-aid Code.

His Excellency the Governor in Council is pleased to direct that G.O. No. 385, Educational, dated 18th June 1907, relating to the students of the Rajahmundry College be modified in so far as to allow the expelled students of the first and second year classes of the College numbering 40 and 32 respectively, be re-admitted into the Rajahmundry College on the expiration of one year from the date of that order,

that is, from the term commencing on 29th June, 1908.

Mr. Justice Sankaran Nair will deliver the address at the Convocation of the University of Madras this year.

On the 16th instant the Madras School of Music has re-opened for the first session of the year under new auspices. The Council of the School have engaged Miss Grace de Rozario, A. R. C. M., as Head Mistress, and it is hoped that under the charge of this popular and talented young lady the school will now enter upon a fresh career of prosperity. Everyone in Madras is acquainted with Miss de Rozario's abilities as a pianiste, with which she has so often delighted Madras audiences, but it is not so well-known that, in addition to her admitted excellence on the pianoforte, she is possessed of no mean vocal powers, and is a more than respectable violinist. The Council of the School are to be congratulated on having secured in Miss de Rozario, a Head Mistress so well-qualified in those three important departments of the teaching necessary in a school of music. Besides her practical knowledge of vocal and instrumental music, Miss de Rozario as might be expected from one who has gained the Associateship of the Royal College of Music, has made herself Mistress of the Theory of Music to an extent which enables her to teach satisfactorily the scientific side of the musical art. We understand that since her return to India she has been teaching music with considerable success, and we trust that under her as its head the Madras School of Music will again become the eminently successful institution it was less than three years ago.

Mrs. C. Sankaran Nair has informed certain leading men of Female Education in Ottapalam that she is prepared to pay a monthly subscription of Rs. 50 if they start a girls' school in the town.

The Board of Management of the Zamorin's College deserve to be congratulated on the success of their efforts to place the institution, which has done so much good to the public during the last thirty years, on a sound financial basis. His Highness the Zamorin has been persuaded to raise his annual contribution to Rs. 3,000, while the other *sthanoms* of his family have undertaken to make up Rs. 2,000 per annum on the principle of a 5 per cent. contribution from their *malikkhanas*. Thus is assured an income of Rs. 5,000 a year for the College. This should be considered liberal, as educational endowments go in India. The buildings of the College have lately been considerably improved, and the staff strengthened by the entertainment of two Masters of Arts, steps at the same time being taken to have all the teachers technically qualified. Two principal needs of the College, however, remain to be supplied. One is the provision of a larger play-

ground for athletics and sports. The other is a suitable site adjoining the College, on which the Committee which has already raised Rs. 3,000 for the purpose, may erect a hostel for the students. We hope that these wants will receive early attention.

THE distribution of prizes to the pupils of the Presidency Training School for Mistresses came off recently in the Museum Theatre. Her Excellency Lady Lawley was present. The hall was filled with a large gathering of Hindu and Indian Christian ladies and gentlemen, and among those present were the following:—Lady Benson, Mrs. Atkinson, Mrs. Stone, Mr. A. I. Mayhew, Mr. Winckler and Mr. N. Pattabhirama Rao.

The proceedings commenced with the singing of a Telugu song, to the accompaniment of instrumental music, by some of the girls, welcoming Lady Lawley. This was followed by an interesting and varied programme consisting of recitation, action songs, drill and kolattum which were all gone through, to the immense delight of the audience, by the infants, junior pupils and senior pupils of the school.

Miss H. Krishnamma, M.A., the Superintendent of the School, then read the following Report:—

Your Excellency, Ladies and Gentlemen,—I beg to offer you a short report on the past year's work. There have been no changes in the staff. As the Permanent Superintendent, Miss Bernard, has not yet taken over charge, the acting appointments that were made in August 1906 are still continuing. The statistics that I have to show are those of 1906, as the examination results were out only during the current year. For the written test for Teachers' Certificates 51 candidates were presented from the English, Tamil and Telugu Departments, and 36 passed, the highest percentage of passes being from the English Department, in which 23 appeared and 20 passed. For the Drawing examination 12 appeared and 8 passed, one of them taking a 1st class. For the Matriculation 4 appeared and 1 passed. It is satisfactory to notice that the number on the rolls in the English Department has increased considerably this year, 150 in this December as against 105 at the end of last year. The number on the rolls in the Vernacular Department has been kept up since last year, 117 this year as against 104 in last December. Many of the children from the Vernacular school were sent to the English school. It is good that education in English should be given, but at the same time it is essential that the vernaculars should not be neglected. The members of the Hindu community are, it seems to me, anxious to send their children to school, but I should like to see them more enthusiastic about their children obtaining a good general education rather than at working only for examinations and being successful in them. "We work not for school but for Life" should be the motto of every school girl, and parents should encourage their girls to keep this always in

view, so that they may soon be able to rise above the restrictions of tradition and caste. The school work has been going on as usual, though many changes were made in the curriculum presented for the students under training and though the English Practising Section, which consists chiefly of Indian girls, was put under the Code of Regulations for European schools. A Reading Room was arranged for the vernacular teachers and students quite separate from the English Reading Room, and several vernacular papers were kindly given to the same by the Editor of a Ladies' Magazine. The candidates presented for examinations at the end of this year are as follows:—43 students for the Preliminary Test, or written part of the Teacher's Certificate examination, 8 for the Drawing examination and 3 for the Matriculation. Two of the Matriculation candidates are Hindu girls. The results of the above examinations will be out only in the months of January and February 1908. With regard to the events in the school life, visits of observation were paid as usual to the other schools, viz., to the Olcott Panchama schools in Teynampet and to the Kindergarten section in the Teachers' College, Saidapet. Visits were also paid by the students to the Lawrence Asylum Press, the School of Arts and the Government Museum. The pupils were taken by the teachers to the School of Arts and the Museum. An interesting event was the sending of many exhibits in Drawing and Kindergarten work to the Madras Educational Exhibition which was held at the Senate House in August 1907, and I am proud to say that the Presidency Training School carried off three silver medals and two certificates, one large silver medal being presented to Miss Ethel Sims, English student, for drawing; 1 small silver medal to the English students collectively for Kindergarten work, and a small silver medal to Soundaraya Bai Govindarajulu, pupil VI Form, for a pen-and-ink sketch, and two certificates to two other English students in drawing. These good results reflect much credit on Miss Chatterton and Miss Peters, the teachers, who are responsible for the Kindergarten work and drawing, respectively. In November, in honour of His Majesty's birthday, a small entertainment was given at the school with the object of impressing upon the children's minds the importance of their duties as loyal subjects of the British Empire. During the latter part of the year a special course of lectures on Botany was given by Mr. P. F. Fyson, Professor, Presidency College, and another in Physiology, by Mohammed Azizullah Sahib, Assistant Professor, Medical College. Both were of much use and of great interest to the teachers and students. It is to be hoped that such special courses will be given every year, specially on matters touching on a study of child-life and child-character—a thing most important to would-be-teachers. In conclusion I would like to say a word of encouragement to the student pupils who have worked well and steadily throughout the year. Success does not lie only in the winning of prizes but in learning patience and perseverance, in making the most of opportunities

while they are available, in realising your responsibilities and performing your duties to the utmost of your abilities. I have much pleasure in thanking the teachers for the very willing and effective help they have given me in carrying on the school work. And now I beg to thank your Excellency for your kindness in presiding on this occasion and for distributing the prizes, and you, ladies and gentlemen, for your interest shown by your presence here.

Her Excellency Lady Lawley next gave away the prizes to the successful pupils of the school, the prizes consisting of books, silver cups, &c., and medals.

After giving away the prizes, Her Excellency said:—

I should very much like to congratulate the successful prize winners this afternoon on their success, and I should specially like to congratulate Miss Krishnamma on the very interesting and entirely satisfactory report that she has read. I hope we may hear of many successes of the pupils in the examinations. It is satisfactory to note a steady increase in the numbers on the rolls. I hope Miss Krishnamma may have cause to be proud of the success of her pupils when the results of this year's examinations will be known in February, and I hope they will be equally satisfactory. Ladies and gentlemen, I am sure you will join with me in thanking the pupils of the delightful programme which they have taken so much trouble in preparing for us this afternoon and which they have carried out so well, and you will also join with me in wishing the Presidency Training School every success in the future. (Cheers.)

Mrs. Atkinson proposed a vote of thanks to Her Excellency for having, in the midst of various engagements, distributed the prizes to the pupils of the school.

The proceedings terminated with the singing of the National Anthem.

THE Teachers' Seminary, Pasumalai, organised some years back, by the Rev. Mr. W.M. Zumboo, M.A. is, we understand, making satisfactory progress, under the presidentship of the Rev. Mr. J. X. Miller, M.A.

For the year under report, we learn that, besides the business meetings, 8 meetings have been held when essays on educational subjects were read and discussed, and model lessons were given. It is in the receipt of magazines on education, both Indian and American.

We wish that it shall have a long and useful career in the educational field. We suggest that these small associations become affiliated to a district association and to the Teachers' Guild. We would add that these associations ought to try to work on the lines suggested in our previous issues for the Teachers' Guild, so that they might be of some practical value to the teachers under their fold.

MESSRS. M. Narasimha, Poi, B. Madhava Rau, and M. Krishna Kini, old students of the Canara High School, and Mr. P. N. Bhandarkar, Central Nazir, District Court, South Canara, have passed the final L.L.B. Examination of the Bombay University. Mr. Narsimha Poi has come out in the 1st class and gets the Arnold Scholarship awarded to the student obtaining the highest number of marks in Hindu Law. The authorities of the St. Aloysius College are erecting a new building at a cost of about Rs. 10,000 for the accommodation of some of the lower classes of the College. The building will be raised on the triangular plot of ground, situated on the northern slope of the District Court, by the Kadri Road. We hear a grant of about Rs. 3,000 has been promised by the Government.

Rev. Hill, Principal, Zamorin's College, intends availing himself of four months' leave in continuation of the midsummer vacation. Mr. Vincent d'Conceicao, retired Sub-Registrar, has been appointed a teacher in the St. Joseph's European Boys' High School, Calicut.

THE staff of the Santa Cruz High School has been entirely re-organised. The services of six of the unqualified teachers were lately dispensed with and their places have been filled by an F.A., two Matriculates and three Lower Secondary men, all trained. Mr. R. Vaidyanatha Aiyer, B.A. L.T., a graduate in Mathematics and a very experienced teacher, has been appointed the 1st Assistant. The school under the present staff promises to do well. With the exception of the Munshi, the Drawing Master and the Gymnastic Instructor, only three of the old teachers remain on the staff.

UNDER the new University Regulations, the Government of Madras has sanctioned Rs. 25,000, Rs. 13,500 and Rs. 10,500 for the St. Aloysius, Victoria and Brennen Colleges, respectively.

MYSORE.

It is in contemplation to establish a Central College of Hindu Medicine in Mysore.

It has been observed that in sanctioning the remuneration to the members of the Medical Board in connection with the Mysore Civil Service Examination of 1907, as Government are interested in the Medical Examination of approved candidates for the said examination, the members of the Medical Board who are officers of the Government are certainly bound to do work without additional remuneration and that similar payments in future will be disallowed. This order is in keeping with the traditions of the present Government.

THE Hon. Mr. S. M. Fraser, British Resident, Mysore recently visited The Sloyd Class, inspected the models turned out by the teachers and students and expressed his satisfaction at what he saw. We learn that in the Visitors book he has remarked:—"I wish I had received such a training as a boy."

SWAMI Yogeeswarananda recently delivered in Doddana's Hall, Bangalore, a lecture on "The Relation between Modern Science and Monism". Mr. R. Raghunatha Rao presided. The Swamiji showed by an appeal to modern science that monism is the only true and scientific religion in the world and proved beyond any shadow of doubt that it is the only religion that can justify the fatherhood of God and the brotherhood of man. The Swami is a very learned man and he is bound to become in fulness of time the true apostle of Scientific Religion in this part of India.

COCHIN.

It appears that, when re-organising the Educational Department, the Diwan intends enhancing the pay of school-masters. No doubt teachers in Primary Schools are not decently paid and it will be a step in the right direction to add to their pay. But are not teachers in Secondary and High Schools already decently remunerated and will it be right to raise the scale of their pay, when disturbance in *status quo* is uncalled for? The matter requires serious consideration and it is fervently hoped that the Diwan will think out the question, before anything is done in this respect.

THERE is a rumour that the Diwan intends raising the Ernakulam College from the second to the first grade. There are certain High and Lower Secondary Schools, (besides which there are thriving private institutions) which may therefore be abolished without a word or murmur being raised by the public. The saving effected by the abolition of these schools are to be utilised for raising the standard of the College. There is a consensus of opinions that the Diwan's idea is highly laudable and one worth trial.

BOMBAY.

THE Secretary of State has appointed Mr. R. Morris, B. A., Oxford, Professor of Logic, and Mr. F. Storrs, B. A., Cambridge, Professor of English Literature in the Elphinstone College, Bombay.

MR. N. Datta, Technical Scholar, Bombay, has been appointed to the Geological Survey Department.

THE first Mahratta Educational Conference, under the patronage of His Highness the Maharaja of Kolhapur, was recently held in the Darbar Hall under the auspices of the Mahratta Vidyaprasarak Mandali of Dharwar. Rao Bahadur Khaserao Jadhav, of Baroda, presided. Rao Sahib Jadhav of Kolhapur, as Chairman of the Reception Committee, welcomed the guests and dwelt upon the history of the Mahrattas, their present condition and the means to ameliorate it. He advocated the formation of a general council of Maratha education. The president in his address reviewed the progress of Maratha education. He said the present material condition of the Mahrattas was deplorable, and therefore, they should try to spread education. The present educational system was faulty as it was instruction and not education and did not help to improve the economic condition of the country.

BENGAL.

WE learn that H. H. the Maharaja of Mysore has consented to be patron of the National Medical College of India, Calcutta.

THE Secretary of State has appointed Mr. William Christopher Wordsworth, M.A., of Jesus College Oxford, to be a member of the Indian Educational Service and to hold the appointment of Professor of Philosophy in Bengal.

MR. Earle, on making over the office of Director of Public Instruction, Bengal, to Mr. Kuchler, will be placed on special duty in the Education Department.

DR. Ashutosh Mookerjee's health has broken down in his effort to do justice to his double work as Judge of the High Court and Vice Chancellor of the Calcutta University. His services are says the "Pioneer," invaluable just now in connection with the new regulations and especially in the inspection of schools and colleges. This particular work will be extremely heavy until August, and the Chancellor of the University, in consultation with the Rector, has decided that Dr. Mookerjee shall be placed on special duty up to that date, so that everything may be got safely through. With the consent of the Chief Justice his services have been spared from the High Court for the next six or seven months.

AN interesting paper was read by Mr. G. R. Kayes on Indian Mathematics at a monthly meeting of the Royal Asiatic Society in Calcutta. The most important part of the paper consists of a translation of Aryabhata's *Ganita* and a commentary thereon. These he prefaced by brief notes which

explain the position occupied by Aryabhata in the history of Mathematics. The point of view of the writer differs from those who have previously treated the subject, for he held that it is beyond all doubt that Aryabhata's work owes its origin to the Alexandrian School of Mathematicians. Aryabhata did not claim to be the discoverer of the rule he published, and it is thought that the *Ganita* was intended by him to be supplementary to the mathematical knowledge of the Hindus of his time. The *Ganita*, when examined in close detail, abundantly confirms this hypothesis. The claims that have been made for Aryabhata—that he was the inventor of our modern system of arithmetical notation; that he discovered a more accurate value for it than any of his predecessors; that he was the first to give a systematic solution for indeterminate equations of the first degree—are shown to be unsound. The rules of the text were examined with great care and as far as possible the history of each was traced.

A Conference is to take place, shortly, between officers of the Governments of India and Bengal respecting the Bengal Training College scheme.

WE understand that the Government is contemplating the adaptation of Pitman's system of shorthand writing into Bengali. A small committee consisting of experts in shorthand and certain educational officers was appointed to consider the matter; and the committee has recommended that the work should be entrusted to Mr. D. F. Sinha who has already published a small treatise on the subject.

WE understand that the authorities of the Free School have acquired a square mile of land at Ranchi, for about rupees one lakh, pending the decision of the transfer of the school from Calcutta to Ranchi.

THE Government have sanctioned the deputation of Messrs. M. G. Venkata Rao, M. Visweswarai, P. A. Mohanavelu Pillai and B. Muninag to the Debra Dun Imperial Forest College for the upper class course of 1908-10.

WE are glad to note that the Exhibition of the articles, implements and apparatus turned out in the Workshops of the Technical and Scientific Departments of the Bengal National College during 1907 has been attracting considerable attention and is being well spoken of on all sides. Distinguished visitors, both Indian and European, members of the landed aristocracy, members of the learned professions, professors of both Government and private colleges, have been visiting the Exhibition

and have pronounced the work done by the institution as exceedingly creditable, considering the fact that it is only a little over one year old. We desire in this connection to call attention to the fact that the bulk of the articles, implements and apparatus exhibited, in the proportion of nearly two-thirds, have been turned out by the Technical Department of the College. Our remarks as regards quality and cheapness apply with equal force to the exhibits of both the Technical and Scientific Departments. It is to be remembered that the College has a Technical as well as a Scientific department, the one ministering to the requirements of the other, the Technical Department costing about fifty thousand Rupees which is nearly half the expenses incurred for the entire up-keep of the College. We invite the public, especially interested in technical and scientific education in this country, to inspect the Exhibits and the Workshops.

It is notified that of the eleven Junior scholarships allotted to the Orissa Division the four second-grade scholarships will be awarded to the four most successful students of the Division irrespective of districts of the Orissa Tributary and Feudatory States on the results of the next Entrance Examination. The seven third-grade scholarships will be distributed as follows:—

Cuttack (including Dhenkanal)	3
Balasore (including Mourbhanj)	2
Puri	1
Sambalpur (including Barma)	1
Total.	7

2. Scholarships not taken up by the district to which they are allotted will be awarded to candidates from other districts standing next on the Divisional List.

3. In accordance with Rule 3 of the revised Junior Scholarship Rules, the abovementioned scholarships may with the sanction of the Director of Public Instruction, Bengal, be held at any of the affiliated College or at any Government Medical School in Bengal which the holder may select.

UNITED PROVINCES.

IN opening the Agra College Hostel, Sir John Hewett referred to the advantages of the Hostel system and expressed his satisfaction that Indian parents were beginning to realise the value of a corporate life in the formation of character.

CEYLON.

Speaking the other day at the London Colonial Institute on Ceylon, Sir Henry Blake dwelt on the success of the natives in commerce and education, and he urged the importance of educating the rising

generation and the need for improving the present system of agriculture. He thought the natives' claims for additional representation in Legislative and Executive Councils reasonable.

BURMAH.

AN Association has been formed in Rangoon to provide scholarships for Madras youths to prosecute industrial and technical studies in Japan and other foreign countries.

INDIA (GENERAL.)

MR. HAR DAYAL, M. A., of Oxford, the Government of India scholar who recently relinquished his scholarship on principle, will join the staff of the Ferguson College, Poona, on his return to India.

THE Government of India have approved, for the present, of Pusa College being used for imparting general agricultural education to selected students from all provinces, and have directed the I. G. of Agriculture to arrange for their reception.

A GRATIFYING Indian success is reported from the Dublin University, where Dr. S. C. Bagebi has headed the list in the LL. D. Examination.

RAJSHAHÍ has come in for her share of national education. The first national school was opened recently at Rajshahi and named *Adarsha Vidyalaya*. On the very first day of the opening of the school some boys were admitted. The opening ceremony was simply inspiring. The recitation of *Chand, Horiloot* and *Sankirtan* formed part of the programme, songs especially composed for the occasion by the well-known bard of Rajshahi, Babu Rajani Kunta Sen, were sung. The President, Babu Bhuvan Mohan Maitra, a leader of the Rajshahi Bar, read a prayer and delivered an excellent speech, Babu Akhoy Kumar Maitra, the well-known author of *Sirajuddoula*, also addressed the audience. Babu Sarat Chunder Choudhury has been appointed Head Master. It is expected the school will soon attract a large number of students. The school enjoys the sympathy of the educated public and may be expected to be a success. It will soon be affiliated to the National Council of Education.

AMENDED rules for the encouragement of the study of Oriental languages amongst junior members of the Indian Civil Service serving elsewhere than in Madras and Bombay are notified in the "Gazette of India"; they are also applicable to Military officers in Civil employ, officers of the Political Department and gazetted Police officers with some modifications.

THE rewards for passing are ordinarily to range from Rs. 500 to Rs. 800 in the case of Higher Standard examinations, and from Rs. 1,000 to Rs. 2,000 for the High Proficiency Examinations, and from Rs. 2,000 to Rs. 5,000 for the Degree of Honour Examinations. New rules are also notified for a literary examination in Hindustani Intermediate between the Higher Standard and the Higher Proficiency tests to be called the Proficiency Examination.

Foreign Notes.

GREAT BRITAIN.

AT a meeting of the East India Association held at the Caxton Hall recently, the following sapient observations were let fall by Sir Lepel Griffin in connection with the problem of Higher Education in India.

Sir Lepel Griffin said that the failure of our educational system in India had been due to the attempt to pour new wine into old bottles. We had not borne in mind that India had a great literature, a great past, with traditions and religions of its own. We had forgotten that we were a country without an educational system of our own. Our public schools, our colleges and institutions sending out first-class men to India were mediæval in their foundation, and when back to the time when Latin was a language in general use. Until the influence that now dominated such institutions was removed from the schools we should not succeed in educating India. The first thing to do in Indian education was to make English an extra, not an obligatory subject. We should not try to assimilate East and West, we should allow the natives to develop themselves in their own way, and if they desired to learn English—the best means in literature and science—then let them pay for it. When that was done the educated class who learned English would be the sons of well-to-do people, who would not take up that hostile attitude due to the hunger of ill-educated young men who desired to get places at the expense of a Government which paid for their education. He would also like to see married youths prohibited from entering college.

THE University of St. Andrews has resolved to confer the honorary degree of LL. D. upon the following:—Lord Avebury, Mr. Francis Darwin president-elect of the British Association; Mr. Philip Norman, treasurer of the Society of Antiquaries; Sir E. J. Poynter, president of the Royal Academy; Mr. Charles Hercules Read, past-president of the Anthropological Institute; and Principal Mac Alister, Glasgow.

TRINITY College, Cambridge, receives £400,000 by the death of the widow of Sir William Pearce, who died childless.

LORD CURZON, Chancellor of the University of Oxford, has been elected to an honorary Fellowship of Balliol College.

BIRMINGHAM University has been presented with a recreation ground by Lord Calthorpe. The value of the gift is estimated at £15,000.

SHEFFIELD University has just added £275 to its funds as the result of a week of Shakespeare Festival performances at a local theatre by Mr. F. R. Benson and his company.

THE proportion of university-educated men to the whole population in the United Kingdom must be rising rapidly. Oxford and Cambridge both rejoice in record entries, London progresses greatly and steadily, the Scottish universities are getting crowded, the Welsh University is full, Dublin is fuller than it has been for twenty years, the Royal University of Ireland examined over forty per cent. more candidates last year than it did five years ago, and the five English provincial universities chartered since the beginning of this century grow annually. Bristol and Nottingham have a very good case when they apply for University charters.

A SUM of over £10,000 has been raised by friends of the late Principal Story, of Glasgow University, part of which is to be devoted to the placing of a memorial window (designed by Mr. Douglas Strachan, of Aberdeen) in the Bute Hall of the University.

THREE parts of English education are protected by Act of Parliament from revolutionary change by the administrative order of the Government of the time being. These are: (1) the public elementary schools, in so far as the power of the appointment of teachers is concerned and the use of those school buildings which are devoted by trust to a denominational purpose; (2) endowments which have been given for education since 1819; and (3) the older Universities as regards the general structure of their constitution and the administration of their endowments, except so far as changes desired by an individual College in its statutes are made by the Privy Council on the application of the governing body concerned. Thus the three things which are most firmly fixed by Act of Parliament in English education are: (1) the balance between the Council and the Voluntary Schools in elementary education; (2) the position of educational trusts of recent, or comparatively recent, date; and (3) the powers of the University, as distinct from the Colleges, at Oxford and Cambridge. All the rest of English education, in so far as it comes within the direct purview of Government, can be gravely affected at short notice by the administrative action of a

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Government which can rely on a majority of the House of Commons.

AT the request of the Director of Technical Education in Egypt, the Education Committee of the London County Council is sending to that country for use in the schools a number of models of the various types of wood-work made by the boys attending the day technical school at the Shoreditch Institute.

LIEUT. HORDERN, R. N., chairman of the Education Committee of the Victoria League, has been appointed a member of the General Education Committee of the Franco-British Exhibition.

MR. Carnegie has intimated that he will contribute the last £10,000 required for the building and equipment of the Technical College for Aberdeen and the North of Scotland.

MR. Carnegie has also promised another £2,000, in addition to the £10,000 he has already given, towards the completion of the buildings of the University Library, St. Andrews.

THE Education Committee of the Yorkshire North Riding has received a report from its inspector showing that in some of the schools where Nature study had been practised good work had been done. In several of the schools the excellent nature of the work was deserving of special mention. During the winter months clearing and digging the ground, together with indoor lessons on theoretical principles underlying gardening, would occupy an hour weekly. One of the most striking instances of successful work, it was stated, could be seen in the splendid crops of vegetables grown by the boys attending the Seamer and Irton School, where the subject had only been introduced this year. The potatoes, carrots, parsnips, and beetroot would have done credit to any horticultural show. The inspector also reported that several additional teachers were anxious to take up the work, and it appeared exceedingly probable that by next summer there would be fifty school gardens at work in the North Riding.

AMERICA.

ACCORDING to the annual report of the Columbia University, the institution needs at least \$100,000 more a year to carry on its work.

PROFESSOR Brander Matthews has partially succeeded in his efforts toward a reformed spelling. The Columbia University trustees and the University Press have voted to adopt a standard of spelling which will bring into official use at Columbia at

least 230 of the 300 reformed spellings proposed by him as Chairman of the Reformed Spelling Board.

Under this change, leaving out of account the past participles in which the board recommends the ending "t," eighty-one per cent. of Professor Matthews's list will now be spelled in the reformed way in all publications of the university.

YALE University has recently received a gift of \$50,000 from Frederick C. Weyerhaeuser of St. Paul. He represents the National Lumber Manufacturers' Association. The gift will go to support a Chair of Applied Forestry and Practical Lumbering in the Yale Forestry School.

The report of the Reverend superintendents of the New York Catholic School Board for the year ending September, 1907, contains some most interesting and valuable remarks in regard to discipline.

"A lack of discipline," the report states, "in a class, is never the fault of the pupils. Discipline can be strict and exacting and uncompromising and at the same time natural and attractive. Children like this kind of discipline."

"The rod is not used in our schools and, therefore, we find highly developed among the pupils those most admirable of all the characteristics of true discipline—respectful, polite bearing, and a wholesome pride of school."

Mrs. Harold Brown, a member of the Board of Education of Newport, R. I. has given \$1,000, to be used for the teachers' retirement fund. The teachers have been striving for several years to increase this fund to such an amount that some of the older teachers may be retired at once on half pay. The fund now totals \$21,033.16.

The authorities of Swarthmore College, Pennsylvania, have declined a gift of 600,000, offered on condition that the students should not play football. Swarthmore College is a Quaker institution, and the bequest was made by the late Mrs. Anna Jeanes, who belonged to the Society of Friends. The students of the college, who have a record in inter collegiate sport of which they are very proud, protested strongly against the acceptance of the legacy.

Mrs. Eddy, the Christian Scientist has announced her intention to devote 200,000 dollars to a Christian Science institution for the special benefit of the poor and for the general good of mankind. The institute will probably be started in Boston.

AUSTRIA.

AUSTRIA-HUNGARY, in order to supply the needs of its population in industrial instruction, has developed a comprehensive system of elementary and higher education which is under the joint supervision of the Ministries of Instruction and Commerce. The work was begun in 1872, and the main purpose which at present underlies it is the formation of a close connection and interdependence between school and practical work, the instruments being found in schools of three different types, some giving complete instruction in a certain trade, and others merely preparatory instruction, while there are yet others in which tradesmen may obtain further teaching in their own particular trade. It is said that the best results have been obtained in those schools which require as one of the conditions of admission some years' previous practice in workshops, such pupils forming the most promising material and proving most keenly desirous of continuing and extending their studies. The Austrian technical schools are in many cases State institutions: they are almost all subsidised by the State, and a large number of them are also supported by the municipalities.

SWEDEN.

SOME interesting details concerning Swedish education are to be gleaned from an article contributed to *Nuestro Tiempo* by Don Rafael Mitjana. It was not until between the years 1875 and 1878 that a proper system of education was established.

AMBULATORY SCHOOLS.

In accordance with their primitive origin the elementary schools in Sweden are Municipal Institutions under protection of the State, and largely subsidised by it; they are also looked after by both the ecclesiastical and Government authorities, and each parish constitutes an educational district under a parish council. Class G of the primary school division contains what are sometimes called ambulatory schools; this means that instruction in the sparsely populated districts is given by a teacher who journeys from one place to another in order to impart as much knowledge as he can in the time at his disposal.

THE PAYMENT OF TEACHERS.

The total cost to the Government for education now reaches the sum of £1,400,000, in round figures, or an average of 5s. 3d. per inhabitant. All parents and tutors are compelled to send their children to school when they have reached the age of seven years, and there is no exception, parents not possessing the means of decently clothing their children may apply for assistance. Teachers' salaries range from £34 to £45 per annum, including free lodging, fuel in winter time, and forage for the maintenance of one cow or the equivalent in cash. The scholastic year consists of eight months only, and thirty-six

hours in each week. All teachers, on arriving at the age of sixty-five years have a right to a pension of from £34 to £40 per annum. Each teacher contributes annually to a widow and orphans fund, and in the event of death the members of his or her family are supported by this fund.

LESSONS PAID FOR BY MEALS.

The total number of schools in 1902 was 5,662, of which 4,480, or 79.1 per cent. were fixed schools. The others are the so-called ambulatory schools. It is to be noted that physiology is one of the obligatory subjects in the Swedish schools. There are workshops for the boys as auxiliaries to the schools. They are subsidised by the different Municipalities, and have given good results. They have two principal objects, viz., the care of the poor children, especially those whose parents cannot look after them, and to inspire the children with a love for work to enable them to acquire skill in different trades so that they can gain a living. As payment for the work they do, they are provided with a meal. There are twelve of these workshops in Stockholm, attended by 1,500 boys.

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The Educational Review.

At a meeting of the faculty of arts in the Punjab University Dr. Weitbrecht pointed out how the University might render good service to the country by encouraging good and useful literature in the vernaculars. We are glad to note that the faculty of arts decided to recommend to the syndicate the institution of suitable rewards in cash for the best books, whether translations or originals, in Urdu, Hindi or Punjabi. We wish that the faculty of arts in the University of Madras would find its way to make a similar recommendation to its syndicate. Surely the vernaculars of South India need special encouragement from the University of Madras, now that a vernacular does not form a compulsory subject for the degree of Bachelor of Arts.

A wave of student rowdiness seems to be passing over the Universities of Great Britain. At a Congregation of the University of Wales the Deputy-Chancellor was compelled to close the proceedings owing to showers of missiles and deafening uproar created by Abeystwyth undergraduates. The cause of this is alleged to be an order issued by the Principal of the University forbidding card-playing and smoking before tea-time in the student's common room. A similar demonstration took place at the University of Glasgow, and the reason assigned is that at the recent degree examination only two candidates out of over forty were passed in French. On a small scale such things seem to occur also in India, though they are fortunately rare. Only the other day we read in a Madras daily a correspondent reporting

that some students of St. Thomas High School, Trichur, had seriously injured the Headmaster of their school for not giving them promotion. We believe that students are students the world over, whatever be their environment and the religious atmosphere in which they may be brought up.

The Association formed some years ago in Calcutta for the advancement of scientific and industrial education is doing good service to the country. It has been able to collect large funds so that it yearly sends a respectable number of students to study in foreign countries. This year eighty students have been selected for different courses of studies. Forty-four go to America, sixteen to England, fifteen to Japan, two to Switzerland, one to France, and two to other European countries. The Calcutta Association deserves our warmest thanks. When there are so many students volunteering to study industries in foreign countries, the foreign Government that domineers over India and is ever ready to make a boast of its work in this land can see no way to found one great technical institute for all India. History tells us that no foreign nation ever permitted its subject races to rise, and we fear that the British Government in India is no exception to the general law.

The position of the assistant-master in the secondary schools of England seems anything but enviable. His salary is miserable, his promotion uncertain, and his tenure insecure. Worse than these, he is entirely at the mercy of the headmaster. The latter can appoint and dismiss his assistants as he may choose. In a court of law

it was recently decided that the powers of the headmaster are unlimited and that he need assign no reason for dismissing his assistants. This is indeed a sad plight for masters. No wonder there has been a gradual deterioration in the supply of assistant-masters for secondary schools. In India the headmasters of high schools are not invested with such autocratic powers, but in many places the salaries of headmasters are entirely out of proportion to those of the rest of the staff.

The Madras University has of late become notorious for the low percentage of passes in the Matriculation examination. It is rumoured that this year the percentage of passes is disastrously low. If the rumour be correct, the failures are attributed to the severity of the examination in history, geography and science. For some years past the idiosyncrasies of examiners have been too manifest in the papers on general knowledge subjects. The syndicate would do well to consider what steps might be adopted to prevent the standard of the Matriculation examination from rising year after year. Considering the minimum for a pass in the several subjects, we think that the papers ought to be easier. We learn that some leading gentlemen of Madras have addressed an appeal to the Vice-Chancellor of the University requesting him to call a meeting of the senate so that the latter may condone "any small deficiency in consequence of which the minimum has not been secured in the history and science subjects." We do not know if the senate has this power. It is primarily the examiners that are responsible for the results, and not the syndicate or the senate. Examiners who have really done their duty, true to their consciences, would not brook to have

their opinions set at naught. It is the look out of the syndicate to see that the papers set for the several examinations are fair and just suited to the standard, and not tamper with the results after they have been passed by the boards of examiners. We would commend for the consideration of the senate the following suggestions of the committee appointed by the British Association in 1906 to consider and advise as to the curricula of secondary schools:

"The committee desire to see a great simplification in the arrangement of examinations for secondary schools, and they strongly recommend that examination and teaching should go hand in hand, the examiners co-operating with the teachers and acting in conjunction with them in order to further the interests of education.

The committee would urge upon the Universities and professions to accept, as qualifying for entrance, the leaving certificates granted by each University to the schools which submit to its inspection."

The Committee of the British Association, which was appointed some time ago to consider the various aspects of secondary education, feel that no scheme of secondary education can be satisfactory unless teachers of learning and force of character are engaged to carry it out. They would, therefore, urge that every effort should be made by scale of salaries, by conditions of appointment, and by retiring allowances to attract a high class of men to the teaching profession. Owing to a false and disastrous economy the status of the Indian teacher has largely deteriorated, and the natural consequence is that secondary education is in a

very bad state. People are ready to avow that the teaching profession is a very honourable form of public service, but no action is taken to improve the status of the teacher. A sub-assistant inspector of schools begins on a salary of Rs. 75, but rarely does an assistant-master in a high school start on a higher salary than Rs. 40. We cannot understand why more money should be spent on inspection than on teaching. The cramping effect of inspection is an acknowledged fact, and on what is in no sense a help to sound educational progress money is wasted.

According to a recent investigation carried out by Professor Eulenburg of Berlin the number of cases of suicide amongst children in the German Empire reached the terrible total of 1152 between the years 1880 and 1903. The cause of suicide in the majority of cases is said to be fear of punishment, and among other causes are included disordered intellect, youthful excess, disappointed love, religious doubt, and reading the works of authors like Nietzsche and Schopenhauer at a time when the mental faculties are not sufficiently ripe for a critical appreciation of their philosophy. The number of cases of suicide is found to be proportionately much greater in the higher educational establishments than those of a lower grade, and the number of suicides among pupils between fifteen and twenty years of age is nearly four times as great as those under the age of fifteen. The professor thinks that the home is mostly responsible for these mishaps, owing to parents not possessing a proper conception of their own duties in connection with the training of their children. In India students sometimes commit suicide on failing in public examinations.

The educational department of Japan consulted Professor Wilhelm Ostwald, the Director of the Electro-Chemical Institute at Leipzig, on the best method of recognizing at an early stage which pupils were endowed with special mental gifts, so that these might be selected and trained in a manner to develop their special gifts. The professor thinks that, above all, those pupils should be picked out who show themselves least satisfied with what the school can offer them. The lack of this contentment is often evinced by the pupil often questioning the teacher on matters which go beyond the school programme. The teacher can easily find out what exactly is the motive which prompts these frequent questionings, whether or not they really arise from a desire on the part of the pupil to bring the subjects of his questionings in their proper relationship to what he already knows.

The peoples of Northern Europe seem to be remarkable for their insight into the best education under the best conditions. By an excellent education and hygienic school-houses, the authorities in Sweden have successfully combated the illness and poverty incidental to a factory town. In a most interesting pamphlet Dr. J. Bager-Sjögern, Superintendent of Board Schools in Sweden, says: "In the long run, it will always be evident that the best remedy for the degenerative influence of town life and industry is to be found in a good education—an education that gives rise to noble pursuits and energetic wills at the same time that it hardens and strengthens the physical powers. The richest results are to be reached by such an education, if combined with an instruction comprising not only the old school subjects, but also such newer

Recognition of special mental gifts at an early stage.

Education as a remedy for the degenerative influence of factory life.

subjects as wood and metal sloyd, women's handiwork, domestic economy, hygiene, art, &c." When a new school-house is built, a whole quarter is allotted, it is provided with verdant surroundings, and great care is taken to see that the sun shines into all the class-rooms and the play-ground, and that no noise disturbs the work.

In a paper contributed to the current number of *East and West*, Indian Universities. Mr. Vincent A. Smith makes some reflections on Indian Universities. The idea of University education is wholly foreign to India, and Indian Universities have been modelled after English prototypes. This is their radical defect. "Not only are they foreign in origin and language but they are also foreign in aim and method. Until they are re-organised with a definite purpose to make them truly Indian, they will not have any foot. How this is to be done, I am not prepared to say off hand; but if the purpose is clear and the object aimed at distinctly seen, means will be found to hit the mark. So much may be said that when an Indian student is bidden to study philosophy he should not be forced to try and accommodate his mind to the unfamiliar forms of European speculation, but should be encouraged to work on the lines laid down by the great thinkers of his own country, who may justly claim equality with Plato, Aristotle and Kant. The lectures and examinations in philosophy for the students of an Indian University should be primarily on Indian ethics and metaphysics, the European systems being taught only for the sake of contrast and illustration. So far as I know the courses prescribed by the Indian Universities are not on these lines, and few of the existing professors would be competent to carry out the necessary reform. History, too, should be treated in the same way, and

be approached from the Eastern, not the Western side. This change also would impose no small strain on the present staff, and would require extensive alterations in the prescribed books, in the whole spirit of the teaching."

At the Annual Meeting of the Senate of the Bombay University, held on the 25th instant it was resolved to hold the two LL. B. examinations twice a year instead of only once as at present. We consider this a step in the right direction. In the University of Edinburgh other examinations are also held more than once a year. Further students who have failed in special subjects are permitted to pass in them without at the same time having to pass in the subjects in which they have already passed. Every step in the direction of removing overpressure in examinations is praiseworthy. We think it unnecessary for a student to pass the B. A., or B. Sc. examination to qualify for the LL. B. examination. A three or four years course after passing the Intermediate Examination ought to suffice for appearing for the LL. B. examination. Some decades ago those that had passed the F. A. examination in the Madras University were allowed to appear for the B. L. examination, and many of them have proved eminent lawyers. For the matter of that, many of our young men, who find it difficult to pass the First in Arts examination of Indian Universities pass with ease the examinations of the Inns of Court in England and return to India as barristers.

Under the general title of "The Pitfalls of the Practical Teacher" a series of papers, written by authorities, each in his own subject, have been appearing in the *Journal of Education*, London. In the cur-

Errors of the geography teacher.

rent number Mr. A. J. Herbertson, Reader in Geography in the University of Oxford and the author of a number of text-books on geography, discusses the errors that the teachers of geography generally fall into. The writer points out the following as the dangers to be avoided by the geography master: misconception as to the scope of the subject; the presumption that one necessarily knows more of a thing after one has learned its name than he does before; bad maps; inadequate apparatus; insistence on too many place-names being learnt; neglect of classification and comparison; false analogies; too much lecturing. Mr. Herbertson's paper deserves careful study, and we draw the attention of our readers to it.

The senate of the University of Madras will soon meet to confirm the appointment of a registrar by the syndicate. We learn that an English solicitor with no special educational qualifications has been appointed by the syndicate. We think that there are many men in India better fitted for the place than the person chosen by the syndicate. The Universities of Calcutta and Bombay have had Indians as registrars. The present registrar of the University of Bombay is a Parsee. If the syndicate of the University of Madras could not find its way to employ an Indian, could it not find a suitable man among the European educationists in this Presidency? The ways and methods of the University of Madras are sometimes impossible to scan.

A TAMIL ADAPTATION STYLED

“ ரம்யனும் ஜொலிதையும் ”

OF SHAKESPEARE'S ROMEO AND JULIET,

By S. V. SRINIVASIAR, B.A., is in the Press here and will, shortly, be out.

The book is dedicated to

Mr. J. H. STONE, M.A., F.R.H.S.,

Principal of the Presidency College, Madras, with his kind permission,

AND

THE SUGUNA VILASA SABHA of Madras has, it is understood, arranged to stage the play by the middle of the March next.

FURTHER PARTICULARS CAN BE HAD OF US.

SRINIVASA VARADACHARI & CO., TRIPPLICANE AND ESPLANADE, MADRAS.

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NO. 2.

THE TEACHING OF SCIENCE

(in the lower classes of Secondary Schools)

IN CORRELATION WITH GEOGRAPHY.

THERE has been in all countries from time immemorial a general craze for widening the curriculum of studies. While some have advocated a thorough study of all the sciences that subserve the needs of man, others have recommended that one should merely taste the upper crust of the sciences, and skim over them in French fashion. In including a particular branch of study in the curriculum, the educator has chiefly been guided by utilitarian motives. If the drawing up of the curriculum were left to the managing body of a school, Municipal Councils would probably advocate the study of sanitary science, earth-work and road-making, the lighting and cleaning of streets, and other kindred subjects; whereas a trading corporation in charge of an institution, would push book-keeping, commercial correspondence, and type-writing into the foreground, or, at all events, insist on a reasonable course in such subjects.

If we took into consideration the utilitarian value of science as ministering to the manifold needs of man, or its disciplinary value as encouraging a scientific turn of mind which observes all that goes on in the physical world with the object of understanding it, perhaps we should include in the curriculum every conceivable form of scientific instruction, pro-

vided it is within the comprehension of pupils. Physiology which in my scheme is dropped altogether, would then occupy the foremost place, as man needs studying his own organism before he can think of his environment. Science would form the staple of instruction, and there would be quite a bewildering maze of subjects. Such a scheme would never commend itself to any rational educationist, considering the limited time at his disposal. Our business at present is to see if there are not scientific topics having a geographical bearing, which cannot be conveniently taken up, without overloading the curriculum. It is not my object to propose two independent courses one in geography and the other in science, but a course in science which shall have a direct bearing on the teaching of geography.

Geography, as dealing with the life of man on earth, is *par excellence*, the science of sciences. If it should cease to be a mere catalogue of incoherent words rammed into the brains of children, if it is to convey any realistic notions to the young learners, it should be rationally taught, and the aid of the auxiliary sciences called in. This would raise geography from the meaningless repetition of names which it now is, into a most educative and fascinating pursuit; and the teacher and the taught would cease to yawn in the geography period. Besides throwing a flood of light on one of the most neglected

branches of the school curriculum, science affords a really efficient means of developing the expressive and perceptual powers of the child, when correlated with reading and composition on the one hand, and the cheaper forms of manual training on the other—I mean drawing, painting, modelling, paper-cutting, etc.

The teacher should have no difficulty in arranging for himself a series of lessons in science, which, while being related among themselves, can easily be correlated with the other branches of the school curriculum. Lessons thus selected, and so taught as to make cross references at every step, are more likely to be remembered: the progress though slow will be sure; the teacher's time and energy are economised, much unnecessary preliminary work for each lesson being saved. Such related lessons awaken, stimulate, and guide the growing faculties: not the fragmentary information that is generally "pigeon-holed" into the brains of children. "Fundamental growth consists of the synthesis of parts into wholes, facts into generalisations, elements into principles."

The knowledge of the build and climate of a country leads directly to the study of its flora. A clear general view of the distribution of soils, and their comparative fertility or sterility, leads directly to the study of the distribution of plants over the earth. Only such pupils as have had lessons in *Botany* all through the course, can enter upon such study with earnestness and profit. Elementary lessons should therefore be given upon the nature and growth of plants in the *Primary grades*, followed in the *Lower Secondary classes* by lessons on the characteristic plants of the region studied—for example on cork, camphor, cocoa, eucalyptus and the date-palm, in connexion with Spain, Japan, Guiana, Australia and Africa, respectively.

Throughout, emphasis should be laid upon the uses of the plants to man—how they supply him with food, shelter and clothing.

To go into details, the pupils of the *Primary grades* shall, during a course of four years study the structure and the functions of the roots, stems, leaves, flowers, tubers, bark, and seeds; shall understand what is meant by such terms as *exogenous*, *endogenous*, and *deciduous*; shall be able to distinguish the vital or vegetative organs of a plant from the reproductive; shall note the relation of the colors and scents of flowers to fertilisation; and shall receive lessons on the edible parts of plants, vegetable oils and their uses, and the different staple vegetable products of the Madras Presidency, to wit, rice and maize, cocoanuts and bananas, sugar and onions, cotton and jute, coffee and tobacco. Along with a systematic study of geography, continent by continent, in the *Lower Secondary classes*, the pupils shall study the staple vegetable products of each continent—for example, oranges and wheat, tea and spices, camphor and indigo. India-rubber and gutta-percha under Asia; bread-fruit bananas and dates, peas beans and cotton along with Africa; wheat and barley, oats and rye, cork and flax, olives apples and currants, grapes peaches and lemons in connexion with Europe; sugar and potato, sago and cocoa, arrowroot and tapioca, tobacco and cinchona, tar and pitch, resin and turpentine under America; ferns and eucalyptus along with Australia. The study of each continent shall close with a brief review of its plant life, and the study of geography as a whole, in the third form, with the geographical distribution of plants based (1) on climate, (2) on their uses. The botanical distribution is an exceedingly interesting study, but such a study necessitates a long preparation in elementary botany, and is therefore out of the question.

The climate, the relief and the plant life of a country, determine its Fauna. From its intimate relation to geography, and the interest children evince in living things, there is no subject of study more delightful to children than *Elementary Zoology*. In the *primary grades* the pupils shall be engaged in observing the food, habits, homes and uses of the animals found in the immediate neighbourhood, how their form and structure is adapted to their mode of life. In the *Lower Secondary forms*, the pupils shall receive lessons on the characteristic animals of the region under study. As in elementary botany, special stress should be laid upon their uses to man: throughout the *human interest* shall prevail.

I may be permitted to propose the study, in the *primary grades* of such familiar animals as the cat and dog, the pig and the cow, the horse and the donkey, the rabbit and the monkey, with special reference to the adaptation of their form and structure to their modes of life. The pupils might also be encouraged to make simple generalisations regarding the uses of the limbs and the tails, the teeth and the horns, the hoofs and the covering of animals. *Mammalia* over, under *Aves*, the pupils shall be taught something about the structure and the uses of feathers, the adaptability of the beaks, claws and legs of birds to their modes of life, in connexion with such familiar birds as the kite and the crane, the parrot and the pigeon, the fowl and the peacock. To a given comprehensive view of the animal kingdom, a few lessons on the snake and the fish on the same lines might be added; while a lesson or two on the structure, habits, and the life-history of an insect, should not be considered out of place. In studying *Asia*, the pupils shall

receive lessons on the camel and the cormorant, the tiger and the elephant, the yak and the goat, the bee and the silkworm, oysters and pearls. While going through Africa, the pupils shall learn something about ivory, the ostrich and the hippopotamus, the lion and the gorilla, the giraffe and the zebra, the turtle and the civet-cat; and if we are not degrading man, the native races of Africa. The study of *Europe* shall embrace lessons on the wolf and the mule, the sponge and the reindeer; and the importance and varieties of animal-food—mammals birds and fish, milk butter and cheese. *America* will include the whale and the cod, the llama and the alpaca, the bison and the capuchin monkey, the sloth and the ant-eater, the alligator and the boa-constrictor, the beaver and the seal, the humming bird and the mocking bird, fats tallow and oil, leather hides and fur, bones horns and hoofs; and, with an apology to man, the redmen and the esquimaux, the gauchos and the patagonians. *Australia* will introduce the pupil to the kangaroo and the duck-bill, the rabbit and the coral, and acquaint him with the distinguishing characteristics of the animals of Australia. A lesson on the aborigines of Australia and another on the maoris of New Zealand, should not be deemed undesirable. As in the case of elementary botany the study of each continent shall close with a brief review of the animals of that region with special reference to their utility. The whole course should be wound up with a study of the geographical distribution of animals.

The suggestions with regard to elementary botany and zoology should be followed by lessons in *Mineralogy* throughout the course. Without a clear knowledge of minerals and

their geographical distribution, it is not possible to make a comprehensive study of the distribution of nations, and the various conditions of national life. The *Primary classes* shall study something about the uses of clay, the production of common salt, the formation of sand, stone and gravel, the general characteristics of metals with ideas regarding their relative usefulness. They shall also become familiar with such metals as copper and silver, tin and mercury, lead and gold; with such alloys as brass and bronze; and such minerals as chalk and limestone. In the Lower Secondary classes the same ground may be covered in greater detail, with additional lessons on such substances as sulphur and phosphorus, coal and graphite, nitre and slate. A brief review of minerals and their geographical distribution will be taken up along with a study of each continent, while a general review of their distribution over the surface of the earth will form a fitting conclusion to the whole course.

Throughout, as I have indicated, emphasis should be laid upon the way in which the productions of a country meet the needs of its inhabitants. It is therefore but one step from the productions to the industries of a locality. The industrial aspect of the subject lends itself easily to a concrete treatment—the only satisfactory method of presenting the subject to the plastic mind. The study of the industrial aspect leads naturally to that knowledge of the commercial capacities of the different parts of the world which it is one of the chief objects of geography to supply. I have therefore included in the curriculum for the *primary grades* lessons on the manufacture of sugar and cotton, pottery and jute. For the *Lower Secondary classes* under Asia, the manufacture of India-

rubber and guttapercha, of silk paper and earthen-ware; under Europe linen-making, the manufacture of lead pencils and woollen goods, glass soap and matches, pins needles and pens; under America the manufacture of cotton and sugar, candles and glue.

Alongside the more formal teaching of geography, there should be given a series of simple lessons on physiographical relations, such as are indispensable, if the geographical facts are to be comprehended. These supplementary lessons shall include in the primary grades such topics as solution and combustion, carbonic acid and the composition of the atmosphere under *Chemistry*; simple notions of porosity, hardness, flotation, water, clouds, rain, ice, springs and rivers, winds and ventilation, the weather-cock and the mariner's compass under *Physics*. The *Astronomical* lessons will include, in outline, the main points that will be taken up in the third form.

In the first stage of the Lower Secondary course, our pupils shall study filtration with special reference to earth as a great filter; shall acquaint themselves with such processes as distillation and evaporation; shall study the relation of plant food to solution, the methods of preparing crystals, specially of nitre, washing soda and sulphur; shall become familiar with diamond and quartz. Under *Astronomy* they shall determine the true north with the help of shadows, construct a simple sun-dial, and fix the directions with the help of the pole star. Under *Physics* they shall revise the mariner's compass. The water level will introduce them to the principle of artesian wells, the formation of oases, the flow of rivers, and a simple method of fixing the horizon. The uses of the spirit level along with the compass, will give them elementary notions of map-making. A study of the pres-

sure of liquids in outline, will teach them how to construct bunds, when bodies float, and how the dangers of the sea may be averted. They shall go over winds and the weather-cock; clouds and rain, pools and lakes, springs and rivers with a little more elaboration, learn to use the rain-gauge, and make a simple classification of soils.

Our pupils are now ready for promotion to the second form. Under *Chemistry* they shall be content with a study of carbonic acid gas, the composition of the atmosphere, and the distinguishing characteristics of rain water, spring water and sea water. Under *Physics* they may profitably take up the study of the effects of heat, unequal expansion and contraction and the formation of sand in deserts, the anomalous expansion of water and disintegration of rocks. The construction and the uses of the thermometer, and the determination of the boiling points of liquids, will engage them for a few days. They will then proceed to distinguish conductors from non-conductors, radiators from absorbers, with special reference to the clothing of man, and the effect of elevation on temperature. They will learn to measure the amount of water vapour in the air, and determine the influence of its presence on the mean annual temperature of a place; shall study the formation of dew and snow, rain and ice, the conditions favourable to rainfall, and the importance of the snow-line to rivers. Winds will occupy them for some time, and here they will study the principles of ventilation; the formation of land and sea breezes, monsoons and trade-winds, and the influence of each on climate. We may also find time for a few lessons on convection currents in water, the relative capacities of stone and water for heat, the

influence of the sea on the climate of a country, the conditions determining climate. I am afraid I have omitted wind and water as motors—the water-wheels of Switzerland and the wind-mills of Holland—rivers and their work, the sea and its movements.

At the end of the course, we find our pupils in the third form ready to take up the study of hard and soft waters, the formation of calcareous tufa, caves, stalactites and stalagmites, and to account for the petrification of wood, the weathering of rocks and the formation of coral, under *Chemistry*. Under *Physics* they will take up the barometer and learn how it is useful to the balloonist and the mariner, boiling under diminished pressure, friction in so far as it explains means of locomotion and winter sports in the temperate and arctic regions; and also twilight and the rainbow, gravitation and the tides, the pendulum and the clock, if not considered too difficult not to be reserved for a later stage. Here we may find a place for such geological topics as glaciers and icebergs, volcanoes and geysers, the formation of rocks, evidences of movement in the earth's crust, stratified rocks and fossils, disintegration and soil formation. The solar system, the size and shape of the earth, its rotation and revolution, causes of day and night, variation in the length of days and nights, the phases of the moon, eclipses and tides, will occupy them for the remainder of the course. Here we shall hand them over to the high school teachers for a systematic course in physics and chemistry.

Such, in brief, is an outline of the course of study in science I have in view for the lower classes of Secondary Schools, as an aid to geography and as an introduction to the systematic study of physics and chemistry in the higher forms. The syllabus, as it is, is

intended merely to be *suggestive*: it is neither exclusive nor inclusive. In spite of the time and labour spent upon it, there must be errors of commission and omission. I might even anticipate the possible objection that I am aiming too high and have included topics far beyond the capacities of our pupils. Insight into child nature, vast experience in teaching, and keen discernment are needed to formulate a new scheme of studies for classes which are no longer "*the fag end of the school*." In putting the scheme into operation considerable modifications will have to be made to suit the individual tastes of teachers, and the varying conditions of schools. Far from suppressing individuality, the syllabus leaves the teacher with a freer hand. My object in drawing it up is certainly not that everything may be reduced to a dead level of mediocrity, but to set teachers a-thinking and leave greater scope for individuality. In submitting my scheme for the careful though indulgent? consideration of my readers, I request they will be pleased to regard it as but the first step in the evolution of a rational method of teaching geography.

The training schools and colleges of America and of almost every other progressive country in the world, make adequate provision for satisfactory courses to the normal students in such subjects as Botany, Zoology, Geology, Astronomy, and Physical Geography in particular. The Inspector of European and Training Schools, Madras, has arranged for special lectures, every Christmas, on similar subjects for the exclusive benefit of teachers employed in Government Normal Schools. The principal aim of training colleges—if I may be excused for such a bold assertion—still seems to be instruction in

methods: success in the L.T. still remains the sole end in view. Examinations figure too much in the normal courses; and it is not an uncommon thing to see normal students poring over Garlick and Sully, Quick and Oscar. Unfortunately, the academical training is entirely cut off from the professional. However well posted a graduate may be in his own optional subject, I must say that it is one thing to have read it as a student, and quite another to go over the same ground once more as a teacher. A thorough course, for instance, in elementary arithmetic and geography with illustrative model lessons at each step, and a similar course in drawing brush-work and modelling under efficient guidance, would be more helpful to the teacher in the classroom than set notes of lessons on the division of vulgar fractions or on the seasons, dictated by the lecturers and greedily got up by the students for examinations. But we may reasonably hope for better things in the future. There may come a time when examinations and note-books will not occupy too prominent a place in the normal courses, "when the academical life of the normal student will be suffused with the professional aim and interest," when due provision will be made for satisfactory courses in kindergarten, geography, and in at least two such subjects, as botany and zoology, geology and astronomy, at the option of the student. Without such preparation it is not an easy thing to handle, with confidence, the lower forms of schools, on approved lines. Matter must precede method. Meanwhile, we, teachers of the old school, must be content with a careful study of such good books as:—

1. Cowham's Graphic Lessons in Astronomical and Physical Geography: Westminster Book Depot.

2. Gregory's Astronomical and Physical Geography: Nelson.
3. Frew's Object Lessons in Geography and Science: Blackie.
4. Murche's Object Lessons in Geography and Science: Macmillan.
5. Do. do. in Geography: Macmillan.
6. Do. do. in Science: Macmillan.
7. Elementary Science in Object Lessons: Nelson.
8. Dexter and Garlick's Object Lessons in Geography: Longmans.
9. Hassel's Common Things and Elementary Science: Blackie.
10. Do. Familiar Objects of Every Day Life: Blackie.
11. Cassell. This World of Ours...Cassell.
12. Howe's Systematic Science Teaching: Appleton, New York.
13. Lyde's Man and his Markets: Macmillan.
14. Protheroe's Dominion of Man: Methuen and Co.
15. Macmillan's New Geographical Readers.
16. Longmans' Pictorial do do.
17. Nelson's World and its People do.
18. Introduction to Practical Geography, Richardson: Macmillan.
19. Wilson's Natural History.
20. Do. Descriptive Botany.
21. Natural History of the Mammals of India: Thacker and Co.
22. Object Lessons in Science and Geography: Nelson.

The list is merely suggestive; it is by no means exhaustive.

I may be permitted to say just a word regarding the medium of instruction. The educational rules have, fortunately, decided the point for us. I may just place before you, as a suggestion, the desirability of occasionally conducting these lessons in English, in the second and third forms, whenever the teacher is sure that the lessons can be so given without causing ambiguity. I should be the last to propose the translation of scientific names into the vernaculars. They convey no meaning either to the teachers or to the taught. Pray, recall to your minds the vernacular equivalent of carbonic acid gas! If the vernaculars of India are ever to grow if their vocabulary is ever to be enriched, they should be allowed freely to borrow and assimilate words from other languages. I fail to understand why a boy of nine or ten, cannot learn such simple words as oxygen, barometer, etc., when he can be made, cane in hand, to repeat *ad nauseum* such hideous names as:—Dera Ghazi Khan and Dera Ismail Khan, Ghiazuddin Taghlak and Alphonso Albuquerque.

Whatever the medium of instruction, thought should always go hand in hand with, nay precede its expression either in words, or in such manual exercises as drawing, paper-cutting and clay-modelling. Mere formal study of words and sentences, or drawing in the abstract as is common in schools, does not afford that training as when thought is behind it. These exercises, unless they are expressive of some thing, are meaningless; their use as an immediate necessity for thought enhances their influence and importance. The best time for training the child in self expression—linguistic or artistic—is

when the interest is hot, when expression springs from the mind in full action. The teacher should never miss the countless opportunities thus afforded of correcting, moulding, and enlarging the powers of expression. "Thought getting" should form an important stage in an object lesson. The object being placed before the boys, they may be required to frame answers in complete sentences to certain questions previously put on the black board, and to make the required drawings. The lesson should then be conducted *vivâ voce* and the whole discussed by the teacher. This alternation between desk work and class work cultivates attention in its two-fold form—active and passive—and fosters in the pupils a spirit of self reliance. In correcting the written work the teacher should attach much importance to composition and drawing. The note-books should be returned to the class with the teacher's comments at the commencement of the next lesson. This method of conducting the lesson, instead of taking time, will save time in the long run. "The short cut is essentially the longer route" in all matters educational. Every member of the class will be compelled to think for himself by the very manner of the presentation and is enabled to receive the training and stimulus aimed at by the teacher. Any laxity on the part of the teacher in correcting the answers and drawings will lead to habits of slovenly thought, and still more slovenly writing and drawing. Even the black-board summary should be the result of brisk questioning, all incorrect answers placed on the B. B. being corrected by the pupils themselves as far as possible. These laboratory note-books, if I may call them by a grand name, will supply the place of a textbook and will be very helpful to the pupils in revising their lessons for periodical exam-

inations, or in preparing a connected essay on any subject that the teacher may happen to set them as an exercise in composition.

The sciences and geography to which they are closely allied, are full of countless facts, interesting in their own way, and very alluring—shall we say? to the teacher. He is apt to forget that the main purpose of the lesson is not to impart useful knowledge, but to teach the child how and what to see, how to reason on the facts observed and arrive at a knowledge of the simpler scientific truths. Out of his own enthusiasm for the subject, instead of placing, in bold relief, the salient points that subserve simple and clear generalisation, the teacher is tempted to teach too many facts at once, most of them unimportant and irrelevant. Multiplicity of facts that have no relation to the general whole, confuses the pupils and weakens if not erases the impression made by the more essential truths. On account of the necessity of teaching large classes, the premium put by examinations on information got up and the importance attached sometimes, by heads of schools, to *quantity*, rather than to *quality*, the teacher, however conscientious, is tempted to hurry through the course, and to show immediate results as evidenced by the knowledge acquired. The object lesson, instead of being a joint investigation by both teacher and pupil of the facts of nature, degenerates into a lecture, illustrated of course, by specimens, but still a lecture. The lesson may interest the whole class, and may open the eyes of the forward boys to the wonders and beauties of nature. It fails to be a piece of individual research on the part of each pupil. The statements made by the teacher are taken on trust. The information is received with loyal acquiescence, carefully copied, patiently mem-

orised, and faithfully reproduced, but quickly forgotten. Observation is dimmed; self-activity is repressed; individuality is atrophied. This slavish dependence on others will have become ingrained by the time the pupils grow up to be men and then we are inclined to say, "Eyes have they and yet they see not." But we forget our responsibility in the matter: eyes they had, but we did not allow them to see. The information imparted matters not; it is the manner of the learning that matters most. We do not expect our pupils to make use, in after life, of the knowledge acquired. This is of secondary importance. Our main purpose is to equip them for the battle of life, where they have to face and successfully combat the unforeseen difficulties that incessantly arise. This can easily be done if the lessons in science be restricted to thirty a year, each complete in itself, selected beforehand by the teacher with the approval of the headmaster. As the later lessons are always dependent on the earlier ones in a connected scheme, the teacher, to ensure that the preliminary stages have been well driven home, will break up the lesson into parts, and, at each stage, make sure, by means of questioning, that the "lame-ducks" of the class are not lagging hopelessly in the rear.

All science teaching should be heuristic, and should place the pupil in a position to make his own observations and discoveries, and not to accept the results placed before him, without question or original thought. I do not mean that the experience of the individual should not be supplemented by that of the race, that in the later stages of elementary science teaching the pupil should not be allowed also to read and inwardly digest the discoveries made by others. The teacher cannot be bound by hard and fast rules laid down

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for teaching. Method is purely personal. He will decide for himself how far heuristic method is practicable and when it is desirable. It is important to remember that the method is well suited to the earlier stages of a pupil's career, corresponding to the first steps in mental progress in the race. The pupils should be encouraged to perform the experiments for themselves, make their own observations, and draw their own conclusions. I have my own doubts—considering the financial status of schools under the new system, and their equipment in respect of apparatus—as to the feasibility of introducing laboratory work in the high school forms. In any case, practical work should not be introduced in the higher classes to the exclusion of the lower ones. If the foundation is weak, the superstructure cannot stand: Practical work is indispensable in the lower classes, only desirable in the higher forms. Taking into account the investment that has to be made, and the facilities afforded in the shape of specimens, apparatus, charts, pictures for elementary science teaching, by such enterprising firms as:—

1. Messrs. A. Brown & Sons, London.
2. " Nelson & Son, do.
3. " Oliver & Boyd, do.
4. " MacDougall & Co., do.
5. " Gallencamp & Co., do.

in addition to the leading educational firms of Bombay, the introduction of practical work in the lower forms will be found much cheaper, only if headmasters make haste slowly and introduce science into their schools, class by class, or at the rate of two classes a year. Thus in 3 years, schools will be well-equipped in respect of apparatus for elementary science teaching. India is in a state of transition. Any violent change would upset equilibrium.

I am fully aware of the various difficulties in the way of putting a new scheme into opera-

tion—difficulties partly inherent in the scheme, and partly external. We are still in the experimental stage. We have to deal sometimes with a stingy manager on the one hand, and, if I may be pardoned for so saying, now and then a not over-sympathetic inspector on the other. In spite of all that has been said and written on the demoralising effects of over-pressure in schools, our headmasters, more often than not, over-work the lower teachers, and leave them little time for study and reflection. I know headmasters will pounce upon me when I say this. Who knows I may change my views, when I happen to be the head of an institution! But the fact remains still undisputed that the lower teachers are under-paid, over-worked and totally ignored. School libraries contain books published in ante-deluvian times and require a thorough over-hauling; the teacher of the lower forms, struggling for matter, finds it very hard to spare from the starvation wages he receives, anything for books to suit his needs. What with the ignorance of parents, and what with their indifference, we are still wanting in parental co-operation. Our profession is no longer an enviable one with “four periods work a day for four months in the year.” It bristles with difficulties and disappointments. Our responsibilities are steadily increasing. The Educational Department holds the “pruning scissors” in its hands ready to weed out all those who do not keep themselves in touch, both in theory and in practice, with the latest developments in educational methods and thought. We shall ignore our grievances, struggle against all odds in a spirit of self-sacrifice, and hold it imperative on the part of every member of the profession so to keep himself abreast of the times as “to send the scissors to rust.”

K. S. PARABRAHMAM.

SOME REFLECTIONS ON THE RESULTS OF THE RECENT MATRICULATION EXAMINATION.

THE harrowing results of the recent Matriculation Examination tell a sad tale; they can only mean one thing: and that is that some thing is rotten in the state of Denmark. It means either that the examiners who bring about this melancholy state of things year after year, are a remarkable set of ‘impracticable men who without having a correct estimate of their functions and without having pitched their standard relative to the standard of instruction received by the youth of this Presidency in our High Schools, indulge in this promiscuous slaughter or that the quality of instruction imparted in the schools is wholly unsound and not up to the mark.

If the former statement is true, then it follows that the Syndicate or for the matter of that the Senate of the Madras University has signally failed in the due discharge of one of the fundamental duties of the trust imposed upon it. If latter, then the whole system of teaching that prevails in our High Schools requires a thorough over-hauling and the sooner it is done, it is better, for the good of the country.

It is impossible to suppose that a nation which has been found capable of supplying the State its foremost judges, and lawyers and some of the best men for the Heaven-born Civil Service, has its budding intellect so cramped and deteriorated that it deserves this intellectual massacre year after year. The whole Educational system in general and the control of the High School Instruction in particular is directly under the general supervision of the Director of Public Instruction. And even men who take the least interest in educational matters know that

there is a yearly round of Inspectors of Schools, Assistant Inspectors, and Sub-Assistant Inspectors perambulating the Presidency, inspecting the schools, advising the Managers and Headmasters, and sending up reports to the Director. And is all this a farce, as farce it must be, if it is to be judged by the results of the Matriculation Examination which is the final test of the work turned out by the teachers engaged in High School Instruction. We pause for a reply. If so has the University ever told the Director of Public Instruction or the Government of Madras that the system of education prevailing in their High Schools proceeds entirely on a wrong basis and unless speedier measures are adopted to remedy the defects brought out year after year, the youth of the country will degenerate into a sort of intellectual prostitution from which there is no way of escaping? We are aware that a system of selection which though unauthorised by the strict rules of the Educational department, prevails in almost all the schools, by which students likely to fail are weeded out and only those that are adjudged to have passed at the selection examination held two months earlier, are finally sent in to the University. We do not for one moment contend that all this number should pass but allowing for all personal equations and idiosyncracies of the teachers and for the inherent defects of the selection examination, at least a fair 40 p.c. of those sent up should pass. A percentage of 15 or 17 will only mean that the teachers in the schools are simply hoodwinking the public by holding quarterly and half-yearly and selection examinations and thus showing a fair record and by throwing all the blame on the apathy and the ruthless severity of the examiners; whereas all the while the work they really do is hollow, unsound, unsystematic and defective or that the examiners appointed by the University

are really to blame in the matter. The M.L. degree examination of this University is justly considered to be the most difficult of all its examinations. Years are not unknown in which the examiners have sent in *nil* return. Even that examination shows this year a record of 50 p.c. pass. We are told that of the twelve that sat up for the examination, six have come out successful. The results of the other degree examinations are as usual fair enough. While matters stand thus with respect to all other examinations conducted by the University, what is it that brings down the results of the Matriculation examination to such a lamentably low figure as to raise a hue and cry through the length and breadth of the country? It must be due either to the faulty system of the examination or the faulty system of instruction or to both: and it must be the sincere and honest attempt of every well-wisher of this country to bring to an end this regrettable state of things.

We venture to suggest that a state of things has sprung up which necessitates the University, if it wants to keep up to the high ideal it has always strived to maintain, to turn round itself and see whether there is anything rampant within. The air is rife with the rumour that the University has in recent years been approximating to the status of an official organ and that the passing of the recent Universities Act has so completely officialised it that the scope of any non-official fellow or of a number of non-official members for exerting himself for any real good is very much limited. We do not for a moment give credence to these statements which exist only in the imaginations of excited minds. No great work in this world or no real advance in any great and good cause has been made except under the stress and strain of very great difficulties and disadvantages. And we do not hesitate to refuse to subscribe

to that creed of narrow-minded schemers who want to brand an official in season and out of season with a super-human sense of the propriety and the justness of his actions and of a faithlessness of the sincerity and intrinsic worth of the advice of the non-official. In such a representative body as the University in particular, such distinctions as official and non-official must vanish in the air and all must meet on a common platform to do all that lies in their best towards the up-heaval and regeneration of those whose interests are committed to their care.

But at this particular juncture, when the air is surcharged with great questions of educational reform and in what direction, and in what form, National education ought to proceed, it is highly imperative that the chief of the governing body of the University must be one of the people of the land. We do not for one moment mean any disparagement of the great and enduring work of a race of remarkable men who have been at the helm of the University from the initial years of its career and development up to the present time and who have presided over its deliberations and who have secured for themselves an undying monument of fame in the wide dissemination of Western education through the length and breadth of the land. But the time has come when the Indian needs, aspirations and difficulties are known to the Indians only at first hand and a representative body as the University to be productive of all the intended results for the good of the people must be largely manned by non-official and official gentlemen, most of whom are the natives of the soil. There was, in the early years of the University, a dearth of such men, qualified alike by their intelligence, integrity, ability and education to discharge the functions devolving upon them as Vice-Chancellors and fellows of the University. And it was thought the best way to popularise

the University and to impart a grandeur and dignity to its degrees and convocations, was to secure the members of the ruling race for its chief functionaries. Now we can count a score of native gentlemen who would fill up such positions with credit to themselves and to their *alma mater* and with usefulness to the community. It is no longer necessary that any artificial encouragement should be held out to the native to appreciate the benefits or advantages of University education. Under these altered conditions of time and circumstance, the best way of managing the concerns of the University and of converting it into a source of maximum good for the people for whom it is intended is to allow it to be manned by the natives trained in it who from their self-experience, know at first hand, its needs, defects, and directions along which reforms ought to proceed.

The time seems opportune enough. There is a talk that the Hon'ble Mr. Justice Benson goes on leave and consequently he has to resign the Vice-Chancellorship of the University. The other Universities, we understand, have already adopted the system of nominating their Vice-Chancellors from the learned natives. The Premier University of India is presided by the Hon'ble Dr. Asutosh Mookerjee of the Calcutta High Court. The Allahabad University has in Mr. Pundit Sundar Lal, its most popular and learned Vice-Chancellor. The Hon'ble Mr. Justice Chatterjee adorns the Portfolio of the Punjab University. In our University, we are not without precedent. Sir S. Subramania Iyer who is justly held in high esteem as one of the most conscientious and erudite judges of the land, filled though for a time, the Vice-Chancellorship of the Madras University. Is it then too much if we ask that the Madras Government should follow suit and appoint one of the native gentlemen as Vice-Chancellor of the University. Of the many that

may be thought of, no one comes uppermost to our mind as the Hon'ble Mr. Justice Sankaran Nair of the local High Court. He has been a distinguished student of the University. He has done valuable work as a member of the legislative council for a long time. He has been the first native to be appointed as the permanent Advocate-General of Madras; and his many qualities of head and heart mark him out as the fittest man to preside over the deliberations of the University in this era of transition.

A GRADUATE.

THE SLAUGHTER OF THE INNOCENTS.

IN the leader of "the Hindu," dated 23rd January 1908, there appeared a strong criticism on the very poor percentage of success at the Matriculation,—one out of ten. It pointed out two notable defects in the University organisation and method:—(1) Examiners, as professors of colleges, are not conversant with High School work; (2) The answers to questions are not communicated to schools. It brought to public notice Rev. Dr. Miller's remedial suggestion that there should be a separate Matriculation Board containing experienced High School staff and also expressed a desire that there should spring up in the country a number of national institutions.

As this is the proper occasion when the question will receive general attention, the following is intended to keep certain defects in view for being remedied. It must not, therefore, be thought that a defence is attempted of every thing done by the University.

II. PROFESSORS AND QUESTIONS.

Professors are the proper men to guide from the lower to the higher step. As was

recently remarked by Lord Rosebury, there should be training not only in teaching but also in examining. The latter, as an art, is getting more and more complicated with progress of knowledge. Educative questions proceed better from them than from the High School staff. But, as they do not know actual conditions, a proper admixture of the High School element is necessary. At least a majority of the examining board must be constant for some years. For some years past, the advantage of keeping up a responsible person for a particular subject has been perceived. Mr. J. A. Yates, formerly Principal of Pachaiyappa's College and now Inspector of Schools sent up to the Syndicate his report on the answers and the points to be kept in view. This, the University circulated to the schools. So, one condition pointed out to be necessary has not been ignored. The pity is that the same course has not been adopted for other subjects.

Though Mr. Yates' circular has been useful, the process of raising the University standard has been rather in the reverse order of raising the teacher through the student. Before qualified teachers were freshly put in or before existing ones were made to qualify themselves, the tone of questioning changed though decidedly for the better. In Mathematics, lectures are given before fresh methods are questioned on, but there was a reaction in History and Geography from questions of topography, exports and imports to those of a higher order before the proper time. This is pressed on public attention for the reason that failure in general knowledge subjects ranks next to that in English; whereas before this, Mathematics took the place. Failure in a foreign tongue is natural. Mathematics requires greater intelligence than general knowledge subjects. For purposes of failure, these have usurped the place of

the former. As answers to questions in English and Mathematics have not been presenting the same amount of difficulty to teachers and pupils, they need not be touched on. History and Geography had a separate minimum; Science had a separate minimum. They would in future have the division. They were grouped into one for the reason that, as there was great slaughter in Science, it would be minimised by adding to it, as comparatively easier, History and Geography. But examiners in the latter made their's also difficult. Thus the position became doubly worse.

From the point of view of managers, there was offered a serious obstacle to proper checks on the teachers of the two groups. When the Science teachers are questioned as to the failure in D, they justify the share of the responsibility as due solely to those of History. The latter quote the results of the past in Science and say that they are not, at any rate, so much responsible as the former notwithstanding the increased difficulty in History. The current opinion, with special reference to this year, that bad results in D are due chiefly to Science examiners adds to the force of their argument. Managers do not know whom specially to check.

III. DEPARTMENTAL INSPECTION.

The area, both physical and intellectual has been too large for the Inspectorate. They cannot stay sufficiently long in any particular place to make themselves felt till the next inspection at least. Inspectors, especially European, care more for examination in English than in others. In their own tongue, they need no special qualifications. At any rate, it is what teachers feel. So, in mathematical and scientific studies, not much has been the advantage gained. Even from an administrative point of view, inspection

has not had the success claimed for it in high and influential quarters. Glaring evils have been allowed to grow up even in schools more directly controlled by the Department—the Municipal and Board—specially the latter until it has become impossible to look at through the fingers. Neither in the quasi-public ones nor in the private has there been any attempt to see that teaching of Science or of History and Geography is conducted on a proper basis. At the inspection, a few test-tubes, with one or two machines and a few chemicals are kept specially cleaned on a table. The Inspector goes away satisfied while, throughout the year, boys are drilled in black-board experiments. The bare fact is mentioned—that even ordinary good text-books in Geography and maps are very much at a discount. When a question paper has to be set and such books as Messrs. Longmans' or Mr. Lyde's are required by a stranger, no more than an antiquated book containing crammed-up information in topography and enumeration of articles exported or imported is found in the school. Facts so staring as these have not been noted and remarked on for purposes of improvement. There has been some improvement within the past few years, say three, in the answers to questions in History and Geography. Unfortunately, there has not been a similar improvement in Science, notwithstanding the fact that failure in Science was usual for a longer time preceding the recent changes in History and Geography. Given this actual condition of apparatus, books and work, the public may be left to judge of that part of the blame which falls on the shoulders of University examiners. Inspectors should demand an annual list of latest and best books and appliances and a quarterly statement of experiments in Science. If a reasonable statement is not forthcoming, they should give notice of withdrawal of recognition in case the

needs are not attended to within a prescribed time. The chief parties concerned in the education of pupils are (1) the parents (2) the teachers and (3) the managers. A consideration of the relations amongst them is necessary to determine what part each plays and how far each discharges its responsibility.

IV. PARENTS AND PUPILS IN RELATION TO SCHOOLS.

Parents never care to know whether teachers live or die; but their days of inquiry are those immediately following the publication of the results in the University or the School examinations. They need not, in large towns, contribute anything more than the fees that schools demand. It is enough, if they create a public opinion in favour of teachers that makes managers feel a desire to use a fair portion of the school savings in the encouragement of teachers. They seem to fancy that the work will somehow go on and that the worker need not be cared for; What is the result? Statistics of teachers leaving annually very large and influential schools have only to be taken and it is then found that a minority of the staff is constant. Is this or is this not actually in existence? Let the enlightened parents of towns say whether they have given their attention to it even for the sake of their own boys.

Pupils of the higher forms report to their parents that they are un-necessarily detained in the selection examination. Even educated parents rush to their help and press the headmasters who somehow or other yield. The result is that sons of poor parents feel the school house to be the place of indulgence to sons of the rich or the influential. Faith in the fairness of headmasters and teachers is lost and the vast majority of pupils is led to believe that whims of authorities determine their fate. The impression they form

from the schools, they wrongly carry in a way to University results. When elderly people hear the huge cry of a large number of pupils and parents converging to the same point, they conclude that, where such unanimity prevails there must be some serious faults in the University examinations and results.

V. MANAGERS AND HEADMASTERS IN RELATION TO PUPILS AND PARENTS.

Seeing that parents yield to their children and that, if the latter please, they prevail on their guardians to apply for leaving certificates and admit them in other schools, managers and headmasters fancy that their prestige is lost if the number decreases and surrender the true interests of pupils for the false satisfaction of the moment. Looked at from a financial point of view, unmanly and even sinful pandering to their weakness is found to be a source of large gain on important occasions also. When rich or influential people's recommendations are rightly or wrongly heeded, they are inclined to contribute large sums towards school-buildings or other heavy items. Managers may have a thousand and one considerations that are not relevant to the purposes of studies qualifying pupils for the University. But, how are University examiners to be held responsible for the sinful combination of faults and follies?

Whether this is merited may be gauged from the selection results of the schools. Boys are detained. Whose fault is it? If it is the teachers, managers have no business to entertain incompetent men. If it is the pupils' that they are not fit, whose fault is it that they are promoted. Now, what is the result of the selection examination according to the University standard? A small number passes, but a larger part is sent up to swell the list of annual failures in the University. The beauty of the whole series of transactions

is that nobody considers himself responsible for this lamentable lot. The assistant-masters excuse themselves on the score of their being merely servants bound to obey. They give their results which are not acted on. What can they do? The headmasters say, "We must suit ourselves to managers; Well, there are so many things that are good; On that account, we must not build castles in the air. We should, moreover, yield to the force of *local public opinion*." The latter expression reminds us of J.S. Mill's explanation that it is the opinion of a few wise and many foolish individuals. Managers and headmasters seem to think that they can impress upon the public the efficiency of their schools by presenting reports showing the proportion of the number passing to that sent up. The Educational Rules however lay down that the proportion to the number actually in class should be taken into account. But, they find every possible pretext for showing, on paper, the number sent up to be as small as possible. Boys who can be exempted for age are not included. In these ways a false impression, however soon clearing away, is created. If a few headmasters assert their individuality in the right direction even enlightened managers, so called, have been heard to say "Why should not headmasters gauge and act on local public opinion whatever the University results may be? Of course, we cannot put it in black and white. Headmasters should, if tactful, realise it of their own accord." Managers and the local public conspire to place strong headmasters in no pleasant predicament. Well did a trusted friend of education and long-standing professor in a leading college say "There must be a separate place, for teachers and managers in the future world if they make schools centres of misery for large masses of people by indiscriminate

promotion and selection and if they then abuse University examiners for plucking candidates."

Schools should certainly give no room for the heart-burning of a veteran educationist that has their welfare in his heart of hearts. Are there facts justifying so much heart-rending? Let the instances of schools placed in the most favourable condition be considered—(1) schools consisting of Brahmin boys and (2) schools under Missionaries. With regard to the former, it must be said that their avocation is study for three reasons—heredity, training, and necessity. What are the results of such schools? What are they expected to be? The University average during the past six years is about a sixth. If the average for Brahmins is taken, it may be a fourth. This is the reverse of what ought to be. Only a fourth should fail in a proper class according to the Educational Rules. Again, Mission Schools managed by Westerns claiming the first place in management fare no better. Their inward motive is conversion. Their outward action is instruction.

These facts of experience with reference to the existing schools make us feel the need for new ones on fresh lines.

VI. THE DUTY OF THE STATE.

In all instances of wrong and suffering those who ought to be held responsible and to bear the brunt of the attack are those of the higher and then the lower ranks. So, in the present, they are firstly the managers, secondly headmasters and thirdly teachers and pupils. The duty of the State towers above all these classes of people. They pass regulations demanding efficiency but do not readily come forward to help even schools which, with all their earnestness, reforming spirit and honest attempts to collect funds, do not command

the requisite financial resources. If the State steps in to help deserving schools, others are sure to follow suit.

VII. THE REMEDIAL REGULATION.

The remedy for the evils of all parties concerned, each of which shirks its own responsibility has been found and we are near the end of all troubles. The regulation that only three chances are allowed to candidates is sure to check them in the most effective manner. It must, at the same time, be said that the time-limit is a *hardship*.

As the Scotch proverb says:

"When bail is next,
Then boot is next.

The failure of all responsible parties has brought into existence stringent regulations and after they are worked for a time, they may be relaxed. But that is a matter for the future.

THREE REMEDIES.

(1) Government should not keep aloof from active participation of their share of the work. These should be revived, as early as possible, *Model Zilla Schools* which quasi public—Municipal and Board—and then private ones may be expected to follow.

(2) Another substantial remedy is *bifurcation*. If Rev. Dr. Miller suggested the desirability of a separate Matriculation Board, he also said at the time of the Universities' Commission that the School Final Course should, in due course, be brought into existence though in the present stage it cannot be introduced all on a sudden. Pupils not having either the taste or the qualification for University Course have no other channel now open to them and so they crowd together.

(3) To give satisfaction to parents who spend large sums on their children and find them wasted, technical subjects may be added to University ones, so that those failing in

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the latter may find some work and wages. In this case there will not be the general complaint of the vast majority of parents who have the secondary end of education immediately in view.

SUMMARY.

1. A separate Matriculation Board is essential. The majority should be constant, and capable men kept up for particular subjects for a few consecutive years.

2. The methods of correction and the answers to questions may be communicated to all High Schools.

3. To minimise slaughter in Science, History and Geography were added to it. But, this has placed both teachers and managers in difficulty. No doubt, the separate minima will be revived. However, the present serious suffering remains.

4. Inspectors of Schools may give notice of withdrawal of recognition in case the needs of teaching general knowledge subjects are not attended to within a prescribed time.

5. Technical subjects added to University ones in High Schools, the School Final examination that must be slowly introduced and model Zilla schools are three remedies that are open to the public and to the State. The State has the largest share of the responsibility and may be legitimately expected to help the people.

C. R. SRINIVASA RANGACHARY.

ON GRAPHS.

A GRAPH is the pictorial or diagrammatic representation of an expression, thus, for the number 10. Let us take one inch as the standard or unit of length, i.e., let the number 1 be represented by one inch. Draw a line AB 10 inches long. Then the line AB will graphically represent 10 inches; or in a terser way, the graph of 10 is the line AB. This line can be drawn in any position and in any direction we please but it is found convenient to have a certain definite point from which to and certain definite directions in which to measure.

Let any point O represent the point from which distances are to be measured. As all distances according to our convention will commence or originate from this point, it will be called the origin. Through this point O draw two straight lines of indefinite lengths X_1OX and Y_1OY . So far as the directions only are concerned, these lines can be drawn in any position whatsoever but for facility of measurement they are usually taken at right angles to one another.

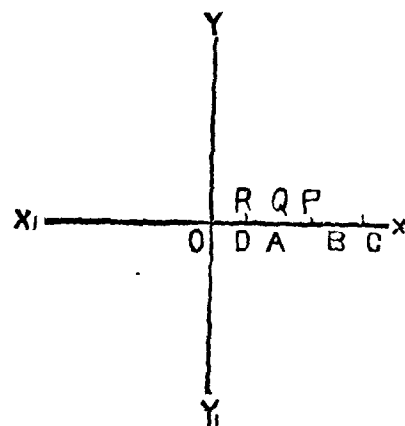


FIG. 1.
(Reduced Scale.)

We have now got our fixed point or the origin O and the fixed directions X_1OX and Y_1OY . These lines intersecting at O have

the two directions $OX, OX_1; OY, OY_1$ which extend oppositely with reference to the point O. Distances measured in one direction are treated as having a positive value, those measured in the opposite direction being treated as negative. In our diagram, (Fig. 1) the distances measured along OX, OY will be treated as positive while measurements in the directions OX_1, OY_1 opposed to OX, OY will be treated as negative.

The instruments we require for tracing graphs are a graduated ruler and a compass: the most convenient and suitable paper is that which has been ruled very near apart and at right angles, called squared paper.

To accustom ourselves to the positive and negative ideas of lines, we will do a few very elementary examples.

(1) A has 4 mangoes, B 3, and C 2; they jointly give 7 to D. Find graphically the number they then have.

Represent one mango by one inch: then 4 mangoes will be represented by 4 inches. From the point O measure a distance OA in the positive direction, i.e., along OX , equal to 4 inches, (Fig. 1). The line OA will represent the number of mangoes in the possession of A. The number with B is represented by 3 inches: from A along the line OX measure a distance $AB=3$ inches. AB will represent the number with B and as OA represents that with A, $OA + AB$ or OB will represent the joint possession of A and B. Similarly if from the point B a distance BC be measured = 2 inches BC will represent the number with C and OC the total owned by A, B, and C.

Now A, B and C give away 7 mangoes, which is represented by 7 inches, to D. As these mangoes diminish the number with A, B, and C, this giving away will have to be taken as negative. To represent this, meas-

ure a distance CD along the line XO i.e., in the negative direction equal to 7 inches. Then OD represents the number now in the possession of A, B and C. Measure OD with the ruler; it will be found to be 2 inches which represents the two mangoes now in their possession.

(2) I have 5 apples. I give 1 to A and 2 to B; how many have I still left.

If, as in the previous example, one inch represents an apple and lengths OP, PQ, QR equal to 5, 1, and 2 inches be measured the first in the positive direction OX and the others in the negative direction XO , the length OR we finally arrive at will represent the number still left with me. Measuring this length OR, I find the number to be 2.

Graphs enable us to ascertain at a glance the characteristics of any expression, $ax+b$ for instance. This by itself gives us no idea of its personality; and unless by actual calculation, we cannot know the values it assumes for different values of x . But when once we find out its graph, we can by actual measurement without calculation find out its value for any particular value of x .

For the sake of simplicity, let us first find the graph of the expression $2x+1$ (which for the sake of brevity, we will call y , thus $y \equiv 2x+1$). We calculate the values of this expression for different values of x , and thus arrive at a number of points which lie on the graph. By carefully joining these points, we arrive at the graph. The values of x are measured along the line X_1OX from the point O and those of $2x+1$ (or y as we have agreed to call it) in the direction Y_1OY . When $x=1$, $y \equiv 2x+1=3$. A distance is measured from the point O along $OX=1$ (the 1 may represent any concrete quantity either an inch or a centimetre or a metre or one-tenth of an inch). Measure

$OM_1=1$. From M_1 in the direction OY , i.e. perpendicular to OX , measure a distance $M_1N_1=3$. We thus come to a point N_1 which lies on the graph of $2x+1$. This point N_1 is located by the distances (1, 3) which are called the co-ordinates of that point. The distance measured along OX is called

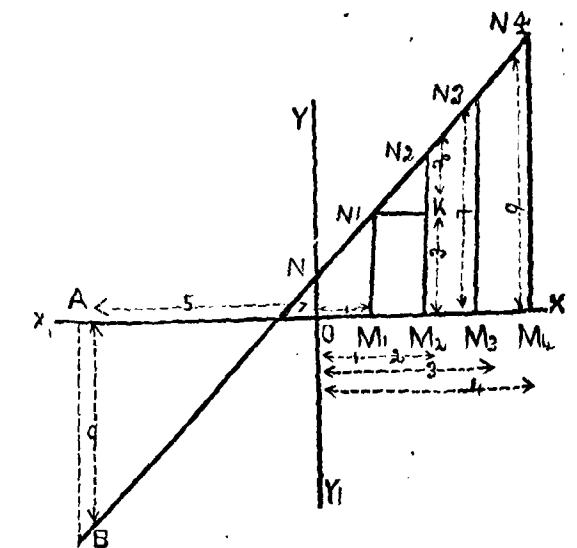


FIG. 2.

the *abscissa* and the perpendicular distance the *ordinate*. Thus the abscissa and ordinate of the point N_1 are 1 and 3 respectively.

When $x=0$, $y=1$. As the distance along OX is now zero, a length = 1 is measured along OY and we locate another point N on the graph. When $x=2$, $y=5$; $x=3$, $y=7$ etc. By measuring lengths OM_2 , OM_3 etc. = 2, 3 etc. along OX and lengths M_2N_2 , M_3N_3 etc. = 5, 7 etc. from M_2 , M_3 etc., in the direction OY perpendicular to OX , we arrive at a series of points N_2, N_3 , etc. on the graph of $y \equiv 2x+1$. All these points will be found to lie on a straight line. Joining them we arrive at the graph of $2x+1$ which is, as already stated, a straight line; it is $NN_1N_2N_3$ in Fig. 2 and is of indefinite length.

To utilise the graph for finding out the value of $2x + 1$ for any particular value of x we proceed as follows, *e.g.*, let it be required to find its value when $x = -5$. From O measure a distance $OA = 5$ in the negative direction, *i.e.* along the line OX_1 . From the point A draw a line in the direction OY , *i.e.* perpendicular to OX and let it meet the graph in the point B . Measure the distance AB . This will be the value of $2x + 1$. In this case AB is found to be numerically equal to 9 and as it is in the direction of OY_1 , *i.e.* in the negative direction, it has to be taken with a negative sign. Thus we graphically find that when $x = -5$, $2x + 1 = -9$.

[The slope of one line MN to another OX is defined as follows. Let M be any point on the line MN . From M draw MP parallel to OX and from P , PQ perpendicular to MP or OX . Then the slope or inclination of MN to OX is represented by the fraction $\frac{PQ}{PM}$ (Vide Fig. 3)].

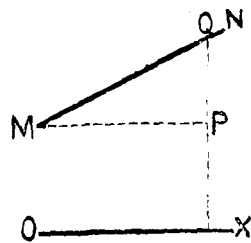


FIG. 3.

In general, the graph of any expression of the form $y = ax + b$ is a straight line. This graph differs from the one traced above for $y = 2x + 1$ in its slope to the line OX and in the length cut off from the line OY (which is found by giving the value zero to x).

To find the slope of $y = 2x + 1$ to OX , from N_1 draw N_1K parallel to OX meeting M_1N_2 in K . Then $N_1K = M_1N_2 - M_1K = M_1N_2 - M_1N_1$ (by parallels) $= 5 - 3 = 2$, and $N_1K = M_1M_2 = OM_1 - OM_1 = 2 - 1 = 1$.

$\therefore$ the slope $= \frac{N_1K}{N_1M_1} = \frac{2}{1} = 2$ and the length cut off from OY by the graph of $2x + 1$ is $ON = 1$. Thus the graph of $2x + 1$ is a straight line having a slope 2 to the line OX and cutting off a length 1 from the line OY ; and in general the graph of $ax + b$ is a straight line having a slope a to the line OX and cutting off a length b [$ax + b = b$ when $x = 0$] from the line OY . This is but an amplification of the definition given above.

[The graph of $ax + b$ can be found directly from this definition without finding its values for different values of x .

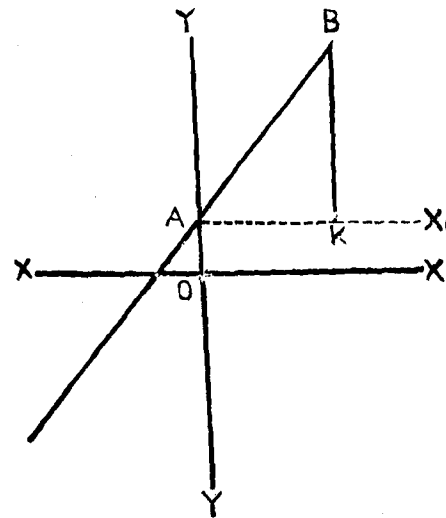


FIG. 4.

Measure a distance $OA = +b$ along OY and draw AX_1 parallel to OX . Take any length AK on this line and from K draw a line KB equal to a . AK in length (algebraically) perpendicular to AX_1 . Then the slope of the line $AB = \frac{KB}{AK} = \frac{a \cdot AK}{AK} = a$, and as OA has been taken $= b$, it follows from the definition that the line AB is the graph of $ax + b$. The graph is not the portion AB only but the line AB produced indefinitely in both directions.]

The graph can be applied to solve questions in reduction.

(1) To convert annas into pies and *vice versa*.

Let lengths measured along the line OX represent annas and let lengths parallel to OY represent pies *i.e.*, let the annas be abscissa and the pies ordinates. As 1 anna

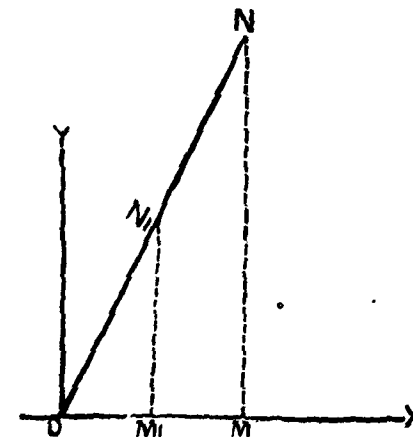


FIG. 5.

$= 12$ pies, it follows that every ordinate of our reduction graph must be equal to 12 times the abscissa. Draw a line through O with a slope of 12; if N_1 be a point on this line and OM_1 , M_1N_1 its co-ordinates, $M_1N_1 = 12 OM_1$ (this is obvious from the definition of slope). And the number of pies corresponding to a given number of annas is the ordinate of the point whose abscissa is the given number of annas, *e.g.* to find the number of pies in a rupee. Measure a distance $OM = 16$ along OX and from M draw the ordinate MN meeting the graph in N . The length MN which is found to be 192 gives the number of pies.

To find the number of annas corresponding to a given number of pies. We place our ruler perpendicular to OX and move it till we find the ordinate corresponding to the number of pies. The abscissa gives the required number of annas. Suppose we are

required to convert 156 pies into annas. We adjust our ruler to find the ordinate KL which will be 156. The abscissa OK which we find by actual measurement to be 13 gives our answer.

(2) To convert poles into yards, and *vice versa*.

Let the abscissa represent poles and the ordinates yards. Draw the straight line passing through the point O having a slope of $\frac{1}{4}$ to OX . Then the ordinate of every point on this straight line will be $\frac{1}{4}$ times its abscissa and therefore the ordinates will represent in yards what the abscissa represent in poles. To convert yards into poles we proceed as indicated in (1).

(3) To convert temperature in the Centigrade scale into that in the Fahrenheit.

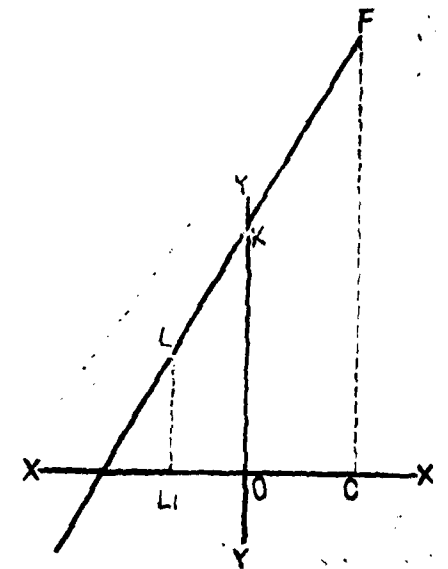


FIG. 6.

Let abscissa represent the temperature in the Centigrade scale and ordinates in the Fahrenheit scale.

0° Centigrade $= 32^\circ$ Fahrenheit
 -5° do. $= 23^\circ$ do.

Measure a length $OK = 32$ along OY and

Let abscissæ represent shillings and ordinates pounds (weight). If lines OK, OM be drawn having slopes $\frac{1}{2}$ and $\frac{1}{3}$, they will represent the graphs of coffee and the mixture respectively. If we find out the number of pounds of mixture at $1\frac{1}{3}$ s. per lb. that will be produced by taking say 10 lbs. of coffee, this will give us the proportion required.

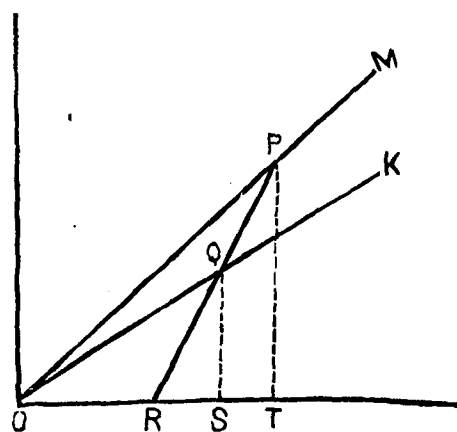


FIG. 10.

Measure OS = 20 and let SQ be the ordinate of Q on the graph of coffee, so that SQ = 10. Through Q draw a line with the slope of the graph of chicory, i.e., 1: let this be RQ meeting the graph of the mixture in P. The ordinate of P, PT which measures 15 gives the number of pounds of mixture satisfying the conditions of the question and obtained by taking 10 lbs. of coffee. It follows that 10 lbs. of coffee should be mixed with (15-10) or 5 lbs. of chicory, which gives the ratio of coffee to chicory in the mixture as 10:5 or 2:1.

The more interesting use of the graph lies in the solution of questions like the following.

When rice sells at 5 annas a measure, a person buys 20 measures; at $4\frac{1}{2}$ annas, 22 measures; at 4 annas, 24 measures; at $3\frac{1}{2}$ annas, 27 measures; at 3 annas, 31 measures, and at $2\frac{1}{2}$ annas, 36 measures. To

find the number of measures he would buy when rice is selling at any particular price. This can be done as follows by finding the graph of the person's demand. Represent annas by abscissæ and the quantity purchased by ordinates. Measure

$Ox_1 = 5, x_1y_1 = 20$
 $Ox_2 = 4\frac{1}{2}, x_2y_2 = 22$
 $Ox_3 = 4, x_3y_3 = 24$
 $Ox_4 = 3\frac{1}{2}, x_4y_4 = 27$
 $Ox_5 = 3, x_5y_5 = 31$
 $Ox_6 = 2\frac{1}{2}, x_6y_6 = 36$.

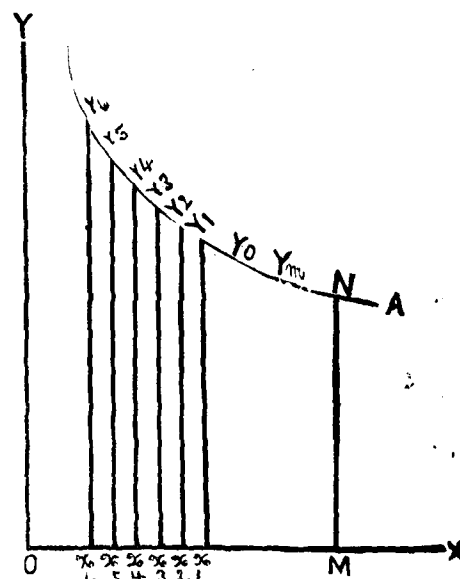


FIG. 11.

We thus arrive at a series of points $y_1, y_2, y_3, y_4, y_5, y_6$ and by considering other prices we get more points y_0, y_m , etc. Joining these points we find the demand-graph AB, enabling us to ascertain by direct measurement without any calculation the number of measures the person would buy at any particular price. Thus if (OM, MN) be the co-ordinates of a point N on the graph, the number of measures he would buy when the price is OM annas a measure is MN.

The following can be solved in an exactly similar manner. The table below gives the number of years Y which a person of age A at present can be expected to live. Determine the probable duration of life of any person of given age, i.e., the number of years which any person whose age is known can be expected to live.

A	0	4	8	12	16	20	24	28	32
Y	41.4	51	49.1	46	42.6	39.4	36.4	33.5	30.7

Illustrations of this kind, I need hardly add, can be multiplied without number and are very instructive.

Simultaneous equations of the first degree in two variables can be solved by graphs, thus: Suppose we are required to solve the equations

$$2x - y - 7 = 0 \quad \dots \quad (1)$$

$$5x + 8y - 1 = 0 \quad \dots \quad (2)$$

$$\text{i.e., } y = 2x - 7 \quad \dots \quad (1)$$

$$y = -\frac{5}{8}x + \frac{1}{8} \quad \dots \quad (2)$$

The abscissa and ordinate of the point in which the graphs of $2x - 7$ and $-\frac{5}{8}x + \frac{1}{8}$ meet give the value of x and y satisfying the equations. Let us trace the graphs.

$$(1) \quad y = 2x - 7$$

$$\text{When } x = 0, y = 2x - 7 = -7$$

$$,, \quad x = 1, y = -5$$

$$,, \quad x = 2, y = -3$$

$$,, \quad x = 3, y = -1$$

$$,, \quad x = 4, y = +1 \text{ etc.}$$

[In practice it is not necessary to find any number of points, for as stated before the graph of an expression of this form is a straight line and a straight line is determined when two points on it are known. Thus if we find any two points on the graph, the line joining these will be the entire graph.]

XIV

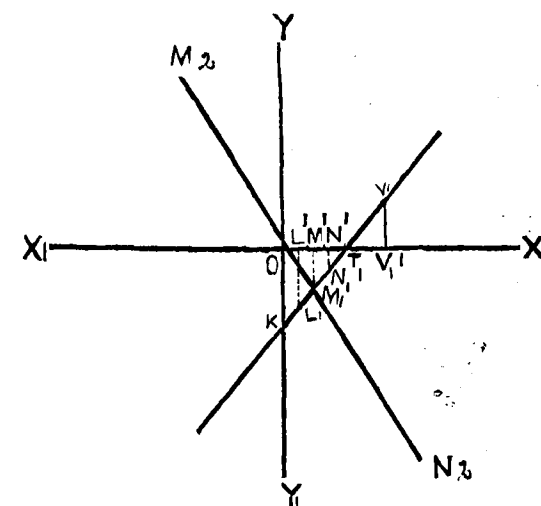


FIG. 12.

Take $OK = 7$ (numerically) in the negative direction, i.e., along OY_1 (it is taken in the negative direction since OK_1 is algebraically equal to -7); then K is a point on the graph. Similarly if we take $OL_1 = 1, L_1, L_1 = 5, OM_1 = 2, M_1, M_1 = 3, (L_1, L_1 \text{ and } M_1, M_1)$ being measured in the negative direction) $OV_1 = 4, V_1, V_1 = 1$ (taken in the positive direction) we arrive at the points L_1, M_1, N_1, V_1 on the graph of $2x - 7$ which is therefore the line $L_1, M_1, N_1, V_1, \dots$

In an exactly similar way by finding the values of $-\frac{5}{8}x + \frac{1}{8}$ for different values of x , points on the graph of this expression are determined and we arrive at the graph M_2, M_1, N_2 . These two graphs meet in the point M_1 . Measuring its co-ordinates, we find $OM_1 = 2$, and $M_1, M_1 = 3$ and as M_1, M_1 is in the negative direction we get the values of x and y as 2 and -3 respectively.

In my next article, I propose to treat of expressions which give rise to graphs other than straight lines.

B. KRISHNAMACHARI.

GEOGRAPHY.

By A. J. HERBERTSON, M.A.,

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THE FUNDAMENTAL IDOL—A MISCONCEPTION OF THE SCOPE OF THE SUBJECT.

It is only in recent years that geography has been studied as a special scientific subject. Its value in education has still more recently been appreciated. Even a dozen years ago the subject was commonly supposed to be one which any intelligent person could get up from an ordinary text-book. An examination of the pre-reform text-book will illustrate what the scope of the subject was understood to be. Primarily it comprised an undigested mass of topographical information, all of it unintelligent and most of it valueless. Lists of capes, lengths of rivers, heights of mountains, areas in square miles—such were among the arid husks offered by ignorant teachers to uninterested children. In addition, scraps of astronomical information, scraps of physiographical information, scraps of historical information, very largely connected with the fighting of battles at particular places; scraps of antiquarian information (Stonehenge is famous for a great stone circle); scraps of culture information (Florence is famous for the number of its picture galleries); and scraps of commercial information (Manchester manufactures cottons).

Only a few remain who still regard geography as a dumping ground of this kind. A small group of trained geographers—Mr. Mackinder more, perhaps, than any other person—helped to deal the death-blow to this misconception of the subject. In a phrase which has become famous, Mr. Mackinder pointed out that the question "Where?" must in all cases be supplemented by further question, "Why there?"—an innovation which at once brought geography into the rank of subjects dealing with cause and effect. This, the present writer has elsewhere suggested, is not all, and in more advanced geographical teaching at least there should be an attempt to answer the question, "What results from its being there?"

The first pitfall of the teacher of geography, therefore, is ignorance or misconception of what the scope of his subject is. In the first place, it is a subject which does not concern itself primarily with words or even with text-books. It is a study of the realities of the world in which we live and cannot be properly acquired without

a concrete conception of these. To be properly understood, every one of the terms employed—hill, river, valley, &c.—must be known, not by the definition in the dictionary, but in terms of the concrete relief of the earth's surface. It is extraordinary how few children have this knowledge of the real thing. In reading hundreds of examination papers lately, not 5 per cent. gave a satisfactory account of a valley, and Glenmore and the Weald were by far the commonest examples of valleys cited. No doubt it is difficult to give a conception of mountains to children in the cities of the plains; but, by means of well selected photographs, models, and maps, their essential geographical characteristics can be made comprehensible. Pupils of Mr. Mackinder who attended his famous lectures at Oxford in the eighties and nineties have frequently said that they gained from them a new perception of the meaning of configuration and of its relation to the development of human society.

The teacher of geography must invariably think of a solid Earth—with plains and valleys forming natural highways for men, with marshes diverting routes and evading settlements; with mountain ranges preventing communication and modifying climate and the occupations of men, with rivers penetrating into the recesses of the country and leading ultimately to the ocean highway, and of the ocean itself as at once linking and dividing the lands of the world. This, which sounds simple, is in reality not so. Careful, open-eyed study of the home district, with longer journeys whenever possible, and constant study of pictures and maps, are necessary before the power can be acquired; but acquired somehow it must be if the teaching is to have any reality.

The teacher of geography must further think of the solid Earth as but part of a larger whole; for the enveloping atmosphere is as truly part of the Earth as are the waters which fill the ocean depths. Moreover, he must regard the whole of this varied surface—whose mere variety of configuration so remarkably conditions the lot of men—not as stable, not as at rest, and not as permanent. Movement, not rest—change, not permanence—is the normal condition on the Earth. A complete series of astronomical motions has to be taken into account: the rotation and revolution of the Earth, with the changes these involve in the atmospheric envelope. From these result the climates of the world, which primarily determine the habitability of the Earth and the type of civilization of each part of the Earth's surface. Through the action of atmospheric agencies the configuration of the Earth is im-

perceptibly, but none the less surely, changing—the mountains being slowly worn down, the depths of the ocean slowly silted up.

To understand the life of man at any period of the world's history and at any point of the world's surface, a whole complex series of causes and effects has to be taken into account. This carries us far indeed from the mere static topographical conception of the subject, which is perhaps the commonest pitfall of the untrained teacher. The true attitude towards the Earth is:

To know her a thing alive;
Whose aspects mutably swerve,
Whose laws immutably reign.

THE IDOL OF WORDS.

The bias of English education is towards an altogether false estimate of the value of words. This is partly due, no doubt, to the influence of an education based on the study of classical languages; but it is also due to an essential dislike to the trouble of thinking. It is much easier to learn the name of things than to learn what the things really are. Children are early taught to read, and from that time onward there is always the danger that they are substituting the word for the idea of the thing itself. It should never be forgotten that we do not necessarily know more of a thing after we have learned its name than we do before. Very often, in fact, we come to know less, for we substitute the name for the knowledge. In the case of intelligent children ignorance of the name is frequently a stimulus to closer observation. A small daughter of the writer's, who has no particular memory for words, but a deep interest in things themselves, constantly makes admirable drawings of flowers in order to find out the name. This is an illustration of the right relation between the concrete knowledge of a natural fact and the knowledge of its name, whether a popular or scientific.

The teacher of geography must rid himself of the belief in the idol of words, and dismiss the idea that knowledge is acquired principally from books and most properly within the walls of the class-room. Most of the first principles of geography are learned unconsciously by the child in the early impressionable years of life—in walks and outdoor games, in the care of the school garden, and so forth. The first principles of geography are consciously taught in the Nature-study excursion and the geographical excursion. The use of the field and of the map of the field should always precede the use of the text-book. The head master or mistress who cannot plan the time-table to admit of this is unfit for the

post. It is one of the minor tests of administrative capacity.

THE IDOL OF MISCHOOSING AND MISUSING MAPS.

The eye rather than the ear is the sense organ to which the geographer has to address himself. To understand that part of the Earth's surface which can actually be inspected is one part of his task; to learn how to represent the facts it offers for observation is another; and a third and most difficult one is to translate the graphic records of parts of the Earth's surface as yet unseen and unvisited.

The use of maps is thus fundamental; the use of the right kind of map is essential. One of the commonest drawbacks to good teaching is the use of bad maps. A child should learn to read a map as easily as a book. It too often happens that all that a child can do is to read the names printed on the map. This is not reading a map. The essential features of a good map can be read without any place names.

Maps with lines of coast and river, with dots for towns, peppered with names and tinted with colours showing political divisions, are of very little use; yet, as a rule, in most school-rooms one still finds such maps hanging on the walls. This is a fundamental mistake. A map is a graphic diagram, and the political divisions which stand out on the wall maps just mentioned illustrate complex and abstract conditions which are best considered at the end and not at the beginning of a geography course. The political control of people must, of course, be taken into account, but the geographical control should be studied first. This geographical control cannot be ascertained from those political maps which convey so little meaning to the pupils. A good wall map is full of meaning which can easily be read by the pupils.

Undoubtedly it is best to begin with maps which show no names at all. More than one must be used; but the essential one is that which shows most graphically and accurately the variations of the surface relief. This must be referred to again and again in dealing with other geographical conditions—vegetation, climate, occupations—which may be graphically depicted on other maps. It takes careful teaching to give the power of reading and understanding and comparing these different maps; but teaching which is not careful is worthless in geography, as in other subjects. Understanding and comparison are fundamental. Children enjoy puzzling out the chief characteristics of different

countries as shown on good wall maps, with a little judicious guidance from the teacher.

As to names, perhaps the best plan is for the children to write those which are necessary on small hand maps, which should correspond as nearly as possible with the wall maps. The children are much more likely to remember the names of features whose characteristics they have discovered for themselves than strings of names which are only vaguely associated with features.

THE IDOL OF FALSE ECONOMY.

From what has just been said, it is obvious that a good school equipment is much more important than a good text-book. This costs money, no doubt, but the money is well spent. The time has passed when a five-pound note spent on political wall maps gave the proper equipment for teaching geography in schools. Not one wall map of each continent and of the British Isles is wanted, but at least half-a-dozen; not one globe, but at least six. But wall maps and globes, alone, are inadequate. Models and pictures—showing the different kinds of physical features, of vegetation, even of occupations, and the characteristics of villages and towns—should also be available. A small collection of large scale maps should be added and does not cost much. If photographs of the different districts shown on those large scale sheets are also available, they add greatly to their value. No doubt a good teacher can do much with poor tools, but a good workman is always worth supplying with good tools.

THE IDOL OF PLACE-NAMES.

One of the most subtle pitfalls is that which bears the false name of "thoroughness." This still means for many a very detailed knowledge of the place-names of the world. It usually involves the neglect of far more important matters. It is not essential, and, as far as it prevents a conception of the broader aspects of a country, it is distinctly bad. In all our school books, including those of the present writer, and in most examination papers, there are far too many place-names. The learning of them prevents a proper study of the situation and characteristics of the most important physical features or the situation of the larger cities. It is not commonly recognized that the question, "Describe and account for the situation of London or Paris or New York," may be profitably set in a University examination as well as in one for boys of twelve. It is safe rule in dealing with place-names not to use any which can be avoided, and to have definite geographical

reasons for the selection of all which are mentioned.

Attention to unimportant detail is bad, not merely in the case of topography, but in the case of climate, of vegetation, or of any other phenomenon which is being studied geographically. It is absurd to teach the trend of all the isotherms at different seasons. What is essential is to know the course of two or three which delimit different vegetative or economic regions. Everywhere the rule must be to have very precise reasons for the selections made.

THE IDOL OF NEGLECTING CLASSIFICATION AND COMPARISON.

Sufficient attention is not paid to classification and the study of types. Yet some of the most valuable geographical lessons grow out of such work. The habit of classifying is an essential aim in geography. It is a necessary preliminary to proper comparisons.

Much of the educational value of geography is lost through neglecting to make legitimate comparisons. How many teachers give a lesson on the south-east of England and make their pupils learn the chief rivers and ridges, and then do the same for north-eastern France and south-eastern Germany, but never point out that the principle of the topography is the same for all three regions! Yet what a saving of time there would be if this were recognized from the outset! How interested children become in discovering the similarities once they have had the typical characteristics of one of those regions properly pointed out—or, rather, once they have been made to discover these for themselves by a judicious study of maps and photographs!

Take another case. How much time is wasted in learning the details about the products of, say Guiana, Venezuela, the West Indies, Central America, and Mexico! Each little political division is separately studied; yet there are certain main characteristics in the climate and vegetation which are common on all the windward and on all leeward sides, and in each of the different zones of altitude—sufficient to make detailed study of any one part of this area suffice, with a few modifications, for an understanding of the whole.

THE IDOL OF FALSE ANALOGY.

There are, however, comparisons and comparisons, and the untrained teacher, in attempting to avoid Scylla, not infrequently falls into a worse Charybdis. Comparisons, to be valuable, must be based on essential, and not on accidental, re-

semblances. The comparison of such regions as the steppes of Eurasia and the steppes of North America, the forests of the Amazon and the forests of the Congo, South Chile and British Columbia, the Central Valley of Chile and the Valley of California are based on essential and fundamental geographical similarities which condition the whole economic development of the regions. To compare, let us say, Fife and Kent, with reference to the situation of St. Andrews and Canterbury, is to emphasize a superficial resemblance of shape, position, and cultural conditions, at the expense of fundamental geographical dissimilarities. There must be a real homology, or the comparison is worthless. Many teachers and many text-books are guilty in this respect.

THE IDOL OF VICARIOUS WORK.

The last pitfall we can notice in this article is that of doing work for the children which they should do for themselves. This is a fault not uncommon in the more conscientious teachers. Geography lends itself too easily to the lecture or story-telling methods of teaching. It equally easily lends itself to the Socratic method. Do not let children lose the joy of discovery. It sharpens their wits and fixes both facts and interpretations on their memory in a natural way. Far too little is made in our teaching of the mental stimulus and ethical value of having a purpose in all we do.

SUMMARY.

There are very many other pitfalls which one might mention, but these are among the chief:—(1) A misconception of the subject which deals with parts of the Earth's surface considered as units with certain relatively permanent characteristics, with seasonal changes in its climate and its plant and animal life, all of which have their effects on the human inhabitants; (2) the lack of reality in the study of the subject and substitution of place-names for pictures and maps and verbal description of various conditions; (3) the selection of unsuitable materials for teaching purposes; (4) the lack of proper use of the materials selected so as to lead up to principles; (5) the neglect of comparison between the features and conditions which are truly comparable; (6) perhaps the worst fault of all is the common objection to allowing pupils to discover for themselves either in the district which they know personally, or through the examination of maps and pictures, the general characteristics of their own district or of distant lands.—*The Journal of Education*.

THE TEACHING OF HISTORY.*

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Prof. Hunt has written, "Nothing in the world is intelligible apart from its history, and man must be of all things the least so, because he is of all things the most complex, variable, and richly endowed." These words admirably summarise the importance of the study of history, and, indeed, no subject in the school curriculum touches stronger or more deeply-rooted interests. It is, then, essential to make a careful examination of the problem of method.

In a course of study extending over the period of a child's school life a constant adjustment of teaching to the child's growing knowledge and capacity must be made. Consequently a three-fold course is necessary, adapted to three stages of mental development. In each section the whole ground as regards matter must be covered, but the matter must be treated in a wholly different spirit and method.

The first stage must be mainly biographical. It should consist of a series of "picturesque biographies." Success in this work must largely depend on the teacher's powers to tell a story graphically. The teacher needs to be imbued with something of the spirit of the late Dr. Arnold, of Rugby, whose interest in the events of history was so great that he quite took them to heart and made a personal matter of them. This intensity of feeling which he brought into his history lessons made them unforgettable. The teacher must be on his guard against biographical teaching becoming disjointed and leaving in the minds of his pupils a mere jumble of isolated stories. A text-book at this stage hardly seems necessary.

In the intermediate stage history proper can be taught, but the element of story should still be strongly marked, and every advantage should be taken of the hero-worship which is so signal a feature of children at this period of their lives. In this stage the external and picturesque aspect of history and the personality of great men should be chiefly dwelt upon. The text-book should be as simple as possible, and written in a brief and lively style, but the teacher will have to supplement it largely.

Here some concrete idea of how a history book comes to be written, what material the historian uses, and what kind of evidence he has for his

* From a paper read at the North of England Education Conference, Sheffield, January 8th, 1908.

statements, should be given. Pupils frequently think the brief paragraph or two about some great affair is a final and complete statement, and it is of importance to force upon their minds that the historical facts in their text-books are selected from an incomparably larger mass of facts. In this work the use of source books is of great value. In every form library there should be a sufficient number of source books for each member of the class to have one. It is quite ineffective for a teacher to read extracts; the books must be put into the children's hands, and problems must be set requiring from the children independent and original thought. To teach history really vividly and effectively, it is essential to get as close as possible to the earliest impressions made by the events being taught, and for this purpose source books are invaluable.

In the advanced stages the teacher's object should be to encourage reflection among the pupils by leading them to study the causation of events and the inner life of institutions. They should be trained to look for the important points, to weigh evidence, to make judgments, and to apply them to analogous circumstances. In this stage the comparative method can be used with greatest advantage.

A well-equipped teacher is the fundamental condition of good teaching. He requires, first, sufficient knowledge, and that knowledge should be sure and intelligent rather than voluminous and encyclopaedic; secondly, some practice in using historical evidence; thirdly, fair-mindedness and a wholesome spirit when presenting facts; and, fourthly, skill in narrative and in developing the pupil's knowledge by questions, and also practical ability in directing the work of the class.

The work of each course for the whole term should be marked out in advance. Only in this way can all the objects aimed at be gained. In the midst of the term, weariness and the inclination to drift appear, and some part of the work is in danger of neglect.

The first condition for a good lesson, and, above all, a good history lesson, is proper preparation, and preparation is of two kinds; it must be devoted to the subject as a whole and to the lesson in particular. After hearing the revision, the teacher will proceed to give his lesson. With the upper forms the lesson should closely approximate to "the lecture," and boys should begin to practise the valuable art of taking notes. It is a mistake always to adopt the same procedure. A lesson may sometimes take the form of a reading from two first-class historians on some

particular point for the pupils to summarise in their notes, or of an investigation into some difficult point. A skilful teacher will find no lack of courses to avoid monotony.

The teacher's commentary or lecture should be realistic, enthusiastic, convincing, and extemporary; it should call events vividly before the pupils' eye, but it should be conversational in character in the preparatory and intermediate stages. Questions must be asked to keep up the attention of the pupils, so as to make them feel that they may be called upon at any moment to give proofs of attention. Of course, this has the disadvantage of breaking the continuity of the lecture, but nothing makes a class so apathetic as outwiring verbosity on the part of the teacher. Above all, simple and clear language should be striven for, every name mentioned should be written on the blackboard, and the good rule, *tarde fiat narratio, ut sequi possint discipuli*, should be borne in mind.

In the teaching of history there must be a stern respect for truth. The alpha and omega of historical teaching is that the facts should be explained, not only because they have happened, but also as they have happened. The teacher should emphasise with readiness and preference the fine, the great, and the capable elements of our national history, but he must not venture to be silent upon stories of oppression.

It is very advisable for each pupil to possess an historical atlas, but if this is impossible, maps and plans of sufficient size must be prepared out of school. The use of an ordinary geographical atlas cannot be too strongly condemned. The pupil who carries into the study of mediæval France his notion of modern France will be confused at every turn. To expect him to understand the gradual evolution of France into a unitary State by means of a map of modern France is to expect the impossible. Maps should be used which are based on the knowledge the people of the period possessed of the places they were seeking to reach. The early history of America can be much better understood if the class examine maps which embody the explorers' ideas of the size and shape of the lands that lay behind the frontier settlements.

The question of historical geography naturally rises here. The comprehension of history becomes far easier when the geographical factors are clearly brought to bear. The effect of the Severn and Cheshire gaps in paralysing the resistance of the Britons to the Anglo-Saxons, when once these gaps had fallen into the latter's hands, appeals to a child and makes him realise

the inter-relation of the two subjects. The predominant importance of the south and south-east of England in mediæval times becomes at once apparent to a class when they realise that agricultural wealth alone counted in those days, and that the trade of Western Europe was concentrated in the Low Countries, towards which the great artery of the Thames yawned.

Correlation of geography with history is not sufficient, and it is a sound plan to make the period of history to be studied the centre round which the literature and foreign language work should be grouped.

Collateral reading should be encouraged. It not only supplements the text-book, giving the student additional information and describing the same events from different points of view, but it also cultivates an interest in history as literature.

Questioning is a high art which requires a great deal of experience. The Prussian syllabus lays special stress on the necessity of practising a pupil as often as possible in the power of repeating what he has learnt in his own words and in connected narrative. Other forms of questioning are necessary, such as a fire of rapid questions and the usual method which seeks to develop the pupil's own thinking by approaching his mind on this side and on that.

World history, and especially ancient world history, seems to be neglected sadly in many English schools. There is a danger of historical teaching in this country becoming too insular. A plea may also be put in here for a wider treatment of Greater Britain when teaching English history. The study of civics must not be disregarded, but should not be separated from the history lesson. "We must never separate 'to-day' and 'formerly'; and civic instruction will not be fruitful unless it is ever stimulating a comparison between contemporary institutions and ancient institutions," wrote Compayre.

All forms of subordinate stimuli to historical teaching, such as historical pictures, historical novels, representations of dress, coins, models, plans, visits to museums or to libraries and archives, are valuable, but they require to be used carefully and sparingly, and never without some definite aim in view. The study of local history and the concentration of general history upon the home may prove stimulating, and deserve consideration.

Above all things, too much should not be attempted. One of the most difficult things is to decide how much to teach and how much to

leave out, but it is imperative that the teacher should see that his pupils get to know and to remember undoubted facts that matter, the memorable and significant things. He can do this most effectively by cultivating his pupils' powers of selection, making them read with attention, and training them in the power of noting and concisely recording sets of facts bearing on the solution of a particular problem, or illustration of a particular idea. If this is accomplished, his pupils will have gained great material profit in the actual acquisition of information, and great disciplinary profit, for they will have gained the valuable judicial capacity of selecting what is essential.

HISTORY AND CURRENT EVENTS.

Opinions still differ as to the results of the last Hague Conference, both immediate and future. Sir Edward Fry in his recently published report is optimistic. Meanwhile, we note that Spanish America is making more progress towards stability in international relations than Europe. Some months ago we commented on the perpetual arbitration treaty between Chili and Argentina, and now we have news of what we are tempted to call the inauguration of the United States of Central America. The Republics of Guatemala, Honduras, San Salvador, Nicaragua, and Costa Rica have agreed to submit to a newly erected High Court all questions in dispute, not only among themselves, but with other Powers. Its jurisdiction is compared with that of the United States Supreme Court, and we are thus reminded of an old plea of the Peace Societies that all States should submit to such a court, as private individuals submit to the courts of their own country.

"The establishment of popular control...is an extension and not a curtailment of the liberties of the people." So says the "Trade Union and Labour Officials' Temperance Fellowship" in reply to the "National Freedom Defence League" *a propos* of proposed tee-total legislation. How fond we are of the word "liberty" and of what looks like its plural, "liberties"! As the late Prof. Seeley said, it comes to mean whatever in politics we want. The late Lord Acton would have joined with his predecessor in this at least, that "popular control" and "popular liberty" are not by any means things of the same kind. Power to control others is one thing. Freedom from the control of others is another. But in popular speech, or rather, in speech addressed to the populace, "liberty" is used for both. Is this use of the word always quite honest?

Is it not rather deliberately intended to confuse the issue?

The French Republic has lately been anxious about its navy; and this for a reason which is quite new in European history. Until the last generation, France had potentially two enemies, the leading power in Germany, whether Prussia or Austria (sometimes, as in Napoleon's time, both together), and Great Britain. Against the latter a navy was necessary, and was not always forthcoming. This failure to maintain a navy was the result of her devotion to the army, which was necessary to fight her German foes, and the cause of her failure to maintain the struggle in America and India. But she never needed a navy against Germany, and never thought of attacking the Baltic coasts of Prussia. It was against a possible Russian attack by sea that Frederick the Great wanted, in vain, the help of the British fleet. But now that there is an *entente cordiale* between France and Great-Britain-and-Ireland, France still wants a fleet, because Germany now has one.

King Gustav of Sweden does not intend to be crowned. He is said to consider coronation "an unnecessary ceremony, and not in accordance with the spirit of the age." We must leave Gustav to settle the practical matter with his Swedish subjects and with the society of "crowned" heads of which he expects to be regarded as a member. But what would the folk of olden times have said? There was a time when an uncrowned king was regarded as no king, even if that assumption involved the consequence that there was no law, no order in the realm. Edward I. was the first English king who ever delayed his coronation for more than the necessary interval. Gustav's decision is parallel to the institution of civil marriage. The State has no ceremonial of coronation apart from the ecclesiastical. And Gustav will not go to church to be crowned. Are his thoughts high State or low Church?—*The School World*.

OUR ENGLISH LETTER.

LIVERPOOL, January, 1908.

1907 has run its course. It has been an eventful year. Full self-government has been granted to the Transvaal, an event of historic importance. There has been great trade prosperity at home, though few confess to it save the cotton men in Lancashire, who have been making fortunes. Politically there have been few changes. Some Cabinet Ministers have made great reputations, notably Mr. Lloyd George by his treatment of

the Railway crisis. But the comparative tranquillity at home has not been reproduced abroad. Germany and the United States have each had their troubles; the political situation in India causes uneasiness at home, whatever you may think of it on the spot: Egypt has lost Lord Cromer; but it is the racial conflict—white against yellow, or yellow against white—that causes most disquietude. What will come of it no one can say, but there are many points of contact on the borders of the Empire, and 1908 is bound to bring important developments.

Thinking, as we must this cold weather, of the elementary school children we are reminded that much confusion has arisen out of the attitude of the London County Council to the Provisions of Meals Act. The L. C. C. have decided not to avail itself of the option of making the feeding of necessitous children a charge on their funds, and have left the matter as before in the hands of philanthropic agencies. Hence difficulty has arisen. It is always difficult to secure from private individuals what can possibly be secured from the State or the Municipality. Give State aid to a denominational school and you will not find that it increases the amount of the voluntary subscriptions. And people were considered that the L. C. C. would take the matter in hand as a matter of course. Optional clauses in Acts of Parliament are frequently misunderstood, as in the case of the rustic constituent who is reported to have written to the member for his division asking whether the Deceased Wife's Sister Act made it compulsory for a man to marry the women in question. The difficulty was cleared up and the anxious enquirer breathed freely once more. An illustration of the way in which the new Act coupled with the inactivity of the Council has unhinged previous arrangements is to be seen in the action of the Salvation Army. Last year the Salvation Army supplied 350,000 farthing breakfasts to hungry school-children in London. But after the new Act Mr. Bramwell Booth gave instructions for this side of the Army's social work to cease. After a time however it has had to be hurriedly taken up again, but, as Commissioner Nicol has pointed out, they are being forced by the children's need to do work that the public do not feel disposed to assist. 20 depôts have been opened in slum centres, where for a farthing the children receive a breakfast which costs a penny—a large mug of hot cocoa and 6 oz. of fresh currant loaf. Meanwhile the spectator continues with characteristic determination to oppose the idea of State or Municipal responsibility in matters like this and to uphold the doctrine of parental obligation.

And undoubtedly there is much in the spectator's thesis, but the children of the nations are apt to suffer direly if our eyes are only open to the divine right of the inhuman parent.

The parent has found many new champions lately. The Marquis of Salisbury is appealing to every parochial clergyman of the established church to form a branch of a society whose name is a quite adequate commentary on the ends of its existence. The official style is "The Parent's League for the Assertion and Maintenance of the Right of Parents to Determine the Character of the Religious Teaching of their Children." Without desiring in any way to prejudice your verdict upon the new League, one might say that the present Marquis is another illustration of the great burden that is laid upon a man when he is the son of a great man. He is far from maintaining the dignity of the name he bears, and yet is thrust by it into a prominence he might otherwise have avoided. Similarly one of the only failures of the present Cabinet is the son of the great Liberal leader. There were unmistakable protests when it was said that he was to be entrusted with the new Licensing Bill, and rumour has lately been busy with hints of a forthcoming peerage—not that rumour here speaks truth. Another instance is to be found in the son of the great champion of Tariff Reform, who was described a day or two ago by a somewhat bitter antagonist as 'inheriting his father's inaccuracy without his father's ability.' It is remarkable indeed that the sons of the three greatest politicians England has had in recent years should be thus overburdened by their position.

The Archbishop of Canterbury and Dr. Macnamara have been crossing swords. The Board of Education has issued regulations which have the effect of undenominationalising—for give the word!—the training colleges. According to the view of the denominationalists the regulations are such that they cannot observe them without (1) rendering themselves liable to penalties for breach of trust: (2) inflicting needless inconvenience on those for whose benefit they were founded: (3) rendering nugatory their special arrangements made for their special denominational purposes. It is urged that the Government should have legislated on the question. And their action certainly seems to bear out the prophecy of those who said that the Education Secretary, 'balked in the House of Lords, would do less in St. Stephen's, and more from the Education Office, and try and secure by administration what he could not secure by legislation. Much will no doubt be said on these

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and other regulations when Parliament meets again.

The Board of Education is not indeed advancing in confidence, universally. The chief feature of the recent Headmasters' Conference was the distrust of the Board of Education that was evident in many quarters. It certainly is stretching out its hand and laying hold of many things. The secondary schools have succumbed, largely through their lack of funds, and the great public schools are wondering how long they will be able to remain in their glorious isolation—one had almost said 'in their masterly inactivity,' but that would be hardly just. The Conference united in condemnation of the Board's insistence upon the majority of the Governors being elected, and the necessity of providing 25 % of free places to qualify for the extra grant. The headmaster of Winchester stood almost alone in his readiness to welcome the general policy of the Education Office, but it must be remembered that the headmasters represented at the Conference have no practical acquaintance of the Board's working, and the unknown is never devoid of terrors. The question of the work done at preparatory schools was the other main subject of discussion at the Conference. Overpressure was acknowledged and deplored on all hands, but the remedy did not become apparent. It has been suggested that Greek should be dropped altogether at the preparatories, and the age of entrance to the public school reduced by a year. But those of us who know anything about the conditions of life at a public school would not welcome unreservedly such a reduction of the age-limit. A public school is a hard school, and a boy needs some strength of body and some strength of mind if he is not to go to the wall at once, and the wall may be a pleasant place at Eton but elsewhere the wall-game is a poor game.

Lord Kelvin is dead, and the world of science mourns for its greatest man. No voice is raised to mar the harmony of the chorus of eulogy upon his attainments and his character. He achieved great things, he lived well. He is said to have had every gift of a great man of science except that of lucid position: he could not lead his students easily up the ladder that he could use himself. But alike in the field of theoretic and practical physics he was supreme. His devout Christian faith was a sheet-anchor to many, and now he sleeps in the Abbey, beside Huxley and Darwin—in death they are not divided.

Reviews and Notices.

AIDS TO THE STUDY AND COMPOSITION OF ENGLISH, BY J. C. NESFIELD, (MACMILLAN & CO.) 1907. 4s. 6d.

No words of ours are necessary to introduce the veteran author of this book to the notice of school-masters. Suffice it to say that a large part of the book, which runs close upon 550 pages, is either a reproduction of, or is based on, two books already published by the author, namely, *Manual of English Grammar*, and *English Grammar: Past, and Present*. The present book is divided into five parts. The first part entitled the *Foundations of English Speech* contains a series of chapters on accident, parsing, and analysis of sentences. The second part, namely, *Studies and Exercises subsidiary to Composition*, deals with the subjects of punctuation, direct and indirect narration, common errors in the use of common words, order of words and euphony and perspicuity of diction. The next part is devoted to the subject of composition in its various stages, structure and synthesis of sentences, structure and analysis of paragraphs and precis and essay writing; and Part IV, in which the subject of composition is further treated, treats of idiom and construction and includes a very useful chapter on essay writing on subjects mainly based on English history. Not the least useful portion of the book is the last and remaining part, entitled, *Aids to the Study of English Literature*, which consists of four chapters dealing respectively with the themes of figures of rhetoric, prosody and kindred subjects, poetic diction, and style in prose and verse. We have examined the book with some minuteness, and are struck with the great care and thoroughness with which it has been prepared. The book is at the same time full and concise; and one conspicuous feature of it which deserves special praise is the series of copious practical exercises attached to each chapter. We should have been glad to see as an adjunct to the last part some hints to the student as to courses of study in prose and poetry. When all is said, facility in the art of writing is secured by a diligent and reiterated perusal of the masters of style with practice in composition; and a chapter recommending to the student a judicious selection from the models of English prose and poetry would greatly add to the usefulness of the present book. We make this suggestion in the hope that the author will consider it in the preparation of a future edition.

NOTES OF TRAVEL, BY J. NELSON FRASER, (CHRISTIAN LITERATURE SOCIETY), 1907. Rs. 1.

This modest little book records the impressions of tours made by the author in Italy, Germany, Switzerland, Sicily and Ceylon and of visits to Agra and Kedarath, one of the shrines in the Himalaya, from which three streams issue and unite to form the Ganges. More than half of the book relates to Germany and Italy. The book is written in a simple style, and will be read with pleasure and profit by Indian students.

CHAMBERS' POEMS FOR JUNIOR PUPILS. 3d.

MACMILLAN'S SUPPLEMENTARY READERS, INTERMEDIATE—FABLES FROM *Æsop* AND OTHERS—4d.

We commend these useful little books to the notice of teachers. They are both printed on good paper and in big type.

PLANT BIOLOGY, BY F. CAUERS, D SC., (UNIVERSITY TUTORIAL SERIES). 3s. 6d.

This book is a very welcome addition to the well-known "University Tutorial Series." The arrangement of the subject matter and the method of study adopted in this work are eminently modern and the author has very rightly discarded the ordinary text-book method. The exclusive study of structure and form of the parts of plants has no very great educational value and to make this study profitable it is very necessary to deal with the form and structure along with the functions and adaptations of the parts of plants. The well-known type system is here followed and the Broad Bean plant is selected as a type. The author deals with all the parts of the plant beginning with seeds and seedlings. Throughout the book very clear directions are given for making experiments and observations. Almost all the experiments can be performed as the apparatus needed are easily procurable. Another special feature of this book is the inclusion of physical and chemical properties of things so far as they relate to plant life in appropriate places. The standard of excellence characteristic of the Tutorial Series is very well maintained in this book also and for those who require for the study of plants a good introductory guide drawn up on modern lines no better book can be recommended.

A MODERN ARITHMETIC WITH GRAPHIC AND PRACTICAL EXERCISES, PART I, BY H. SYDNEY JONES, M.A. (MESSRS. MACMILLAN AND CO., LONDON.) 3s.

Ever since the introduction of the Graph as an integral part of our elementary mathematical studies, we have been expecting a book like the one before us. It, as the name implies, is in every respect modern. Graphs are given the very prominent place they deserve and wherever possible, the truth of propositions are demonstrated by their aid. It is an undeniable fact that diagrams have the quality of catching the eye and of conveying ideas to our mind in a much easier manner than otherwise; and moreover of giving a tinge of poesy, if we may so, to things prosaic, amongst which the average school-boy is inclined to include the last of the three R's. If there is one quality more than another which distinguishes the book before us, it is its non-prosaicness; and we are sure that the book will be handled with interest by even that boy who has the most morbid disliking to arithmetic.

Apart from examination purposes, the chief practical use of arithmetic lies in calculation without pen and paper, but it is few that realising this give us a good dose of mental arithmetic. The book before us contains more exercises of this kind than ordinarily but we would have liked still more. Simple practical measurements are provided throughout and the student is required to find the areas of geographical contours by actual measurement. This is a pleasant deviation and in the right direction. As the author says in his preface, the exercises illustrate, in most cases, actual calculations met with in the experience of life. Decimals, lying as they do on the royal road to calculation, rightly take the precedence of vulgar fractions. Approximations, the study of which while giving a highly practical value to any subject tend to accurate training of thought, also find a place in the book.

While emphasising the highly educational value of the book before us to the teacher and to the student of England, we cannot admit it to be a fit book to the Indian student. The book essentially trains the faculty in thinking in pounds and pence and tons and hundredweights, which have no practicality for us here. Our boys can understand things better (and with more use too) if expressed in maunds and visses and annas and rupees; and we would heartily welcome the book which, avoiding notations ultra-English, introduces the highly salient features of the work before us.

Indian Educational Notes.

MADRAS.

Miss Bernard, Superintendent of the Presidency Training College for Mistrresses, who left early last year on leave for Europe, returned to Madras and assumed charge of her office.

Miss C. M. Lynch, Inspectress of Girls' Schools, Southern Circle, has privilege leave for two months, from or after the 13th February 1908.

Miss J. Patterson, Acting First Assistant Inspectress, West Coast Girls' Range, to act as Third Inspectress of Girls' Schools, Southern Circle, during the absence of Miss C. M. Lynch on leave or until further orders.

Miss M. A. Jupe, Sub-Assistant Inspectress, Trichinopoly-Madura Girls' Range, to act as Assistant Inspectress, West Coast Girls' Range, vice Miss J. Patterson.

Miss Agnes de Rozario, B. A., L. T., is appointed to act as Sub-Assistant Inspectress, Trichinopoly-Madura Girls' Range, in the second class on Rs. 75 per mensem during the employment of Miss Jupe on other duty or until further orders.

Mrs. C. E. Rhenius, Inspectress of Girls' Schools, Northern Circle, has been granted an extension of privilege leave for one month.

Mrs. A. M. Shrinivasa, B. A., L. T., is to act as Second Assistant Inspectress, vice Miss Patterson, but to continue to do duty in the Kistna-Guntur Girls' Range.

V. VEMBU Sastri, B. A., L. T., Head Clerk, Office of the Assistant Inspector of Schools, Ceded District Division, and acting Head Clerk, office of the Assistant Inspector of Schools, Guntur-Nellore division, is appointed to act for the Sub-Assistant Inspectress, Ganjam-Vizagapatam Girls' Range, in the third class, during the absence of Mrs. A. M. Shrinivasa, B. A., L. T., on other duty or until further orders.

Miss A. Shanmukham, Sub-Assistant Inspectress, South Arcot-Tanjore Girls' Range, is to act as Third Assistant Inspectress, Madras Girls' Range, during the absence of Miss Parsons on leave, or until further orders.

Mr. V. S. Narayana Rao, Sub-Assistant Inspector of Schools, Chittoor Range, is appointed to act for the Sub-Assistant Inspectress, South Arcot.

Tanjore Girls' Range in the third class, during the employment of Miss A. Shanmukham on other duty, or until further orders.

Mr. Sivaram Ratho, Sub-Assistant Inspector of Schools, Ichapur Range, is appointed to act as Sub-Assistant Inspector of Schools, Purnshottapur Range, during the deputation of Mr. M. S. Panigrahi for training or until further orders.

Mr. Vajshnava Behara, Supervisor of Primary Schools, Boirani Sub-Range, to act, subject to the approval of the President, District Board, Ganjam, as Sub-Assistant Inspector of Schools, Purushottapur Range, on a salary of Rs. 37-8-0 per mensem until relieved by Mr. Sivaram Ratho.

K. Kunhi Ahmad, Supervisor of Mappilla Schools, Ponnani Taluk, is appointed, subject to the approval of the President, Taluk Board, Palghat, to act as Sub-Assistant Inspector of Mappilla Schools, Southern Mappilla Range, in the Probationary Class, during the deputation of Mr. Kunhi Ahmad Koya on other duty or until further orders.

Privilege leave for three months with effect from the date of relief is granted to Mr. S. Krishnaswami Iyer, B.A., L.T., Sub-Assistant Inspector of Schools, Karur Range; Mr. B. Thirumalai Iyengar, Supervisor of Primary Schools, Coimbatore Taluk, is appointed to act for him in the Probationary class during his absence on leave or until further orders.

Mr. P. Bhimasena Rao, Sub-Assistant Inspector of Schools, Kurnool Range is to act in the Markapur Range. To join immediately handing charge to clerk.

Mr. A. Venkannah Pantulu, Sub-Assistant Inspector of Schools, Markapur Range is to act in the Kurnool Range *vice* Mr. P. Bhimasena Rao. To join immediately on relief.

Mr. R. Muchiji, the Director-General of Education, Japan, recently visited The Teachers' College, Saidapet. He was received by Mr. A. A. Hall, the Principal of the College and was conducted through the several departments. He left the building expressing himself highly pleased and instructed with the methods of training adopted there.

The Syndicate of the Madras University has recommended to the Senate the conferment of the Degree, honorary, of LL. D. on Sir Subramania Iyer.

Mrs. Annie Beasant, in a lecture delivered at Adyar, said that the Theosophical Society had a

scheme before it of a University for India with a Board composed of Indians of every faith. She had spoken to Mr. Morley about it while she was in England and to Lord Minto, who said that he thoroughly approved of the idea and would do his best to enable it to be carried out practically. They were going to apply for a Royal Charter for the Indian University in order that the University might confer degrees and be recognised by the Government.

The Madras University Syndicate has selected for the post of Registrarship Mr. Francis Dewsbury, a Solicitor in England.

Mr. T. A. Kilborne of the Yale University, America, delivered an interesting lecture on University Education in America, Mr. M. C. Alasingaperumal presiding. Mr. Kilborne's imitations and caricatures of the professors, and his extremely humorous renderings of student-life kept the whole audience in roars of laughter. He also noted that the University education there gives equal attention to all sides of man's capability and aims at making him a man. The Athlete is almost worshipped there. He said that about 60 per cent. of the students who appear for entrance examinations get passes, and that almost all the students who appear for degree examinations take their degrees. This he attributed to the system—their own professors being their examiners—obtaining there; and he added through this means, examining in America was the real test of the capacities of students.

In connection with the Government of India's scheme of technical scholarships the Madras Government consider that a scholarship may most advantageously be assigned in the current year for the study of textile chemistry as applied to the dyeing, bleaching, finishing and printing of textile fabrics.

The Government have sanctioned an immediate grant of Rs. £00 and an annual contribution of Rs. 1,200 towards the maintenance of the band in the Provincial Training School, Vellore.

We are informed that the Director of Public Instruction has recognised the Central School of Commerce, Teppakulam, Trichinopoly, under the Madras Educational Rules as fitted to impart instruction in certain commercial subjects.

It is an interesting report that has just been published of the Madras Educational Exhibition which was held in August last. The Exhibition, as those who personally visited it will be ready to testify, was a success in every way. The report is full of very useful information regarding the great variety of articles, English and Indian, that we exhibited in August last. An interesting account is given in the first chapter of the organisation and programme

The second chapter is devoted to a detailed description of the English Exhibits. The Coorg Exhibits are succinctly described in another chapter. Of course, the Indian Exhibits also are described, and it will be useful if one or two salient remarks in the report are called here for general information. One of the most encouraging feature of the Exhibits, says the report, was the amount and quality of the work sent up by Girls' Schools all over the Presidency. From the Exhibits in the Drawing Section, the judges have come to the conclusion that very good progress has been made in schools in 'the adoption of more fruitful methods of Drawing teaching than were formerly known.' The writing Exhibits at the last Exhibition are declared to have shown what should not be taught and what ought to be avoided. The credit of having brought out such an excellent report belongs to Mr. Arthur Mayhew, the President of the Exhibition, who was ably assisted in the work by Mr. Subramanyam.

The following Notification is published in the "Gazette":—

In G. O., No. 46, Educational, dated 23rd January 1906, and G. O. No. 630, Educational, dated 26th September, 1906, the attention of the public was invited to the scheme of technical scholarships instituted by the Government of India, and information was furnished regarding the object of the scholarships and the conditions under which they were offered. Since the introduction of the scheme in 1903, two scholarships have been awarded to candidates from this Presidency, one to Mr. G. N. Dewal in 1906 for the study of the Weaving Industry and the other to Mr. M. A. Ramunni Pannikkar in 1907 for the study of the Leather Industry.

2. After consulting the Chamber of Commerce, the Trades Association and some of the leading commercial firms in Madras, the Governor-in-Council considers that a scholarship may most advantageously be assigned in the current year for the study of Textile Chemistry as applied to the dyeing, bleaching, finishing and printing of textile fabrics. The candidate for the scholarship should have taken the B. A. Degree with advanced Chemistry (Branch II-B of the Madras University) as his optional subject, but the claims of candidates who have passed in Chemistry for the degree will also be considered. Candidates desirous of prosecuting the technical study of textile chemistry as applied to dyeing, bleaching, finishing and printing of textile fabrics should submit their applications to the Director of Public Instruction so as to reach him on or before the 15th March 1908.

3. Ordinarily the period for which these scholarships may be held is two years, but in special cases it may be increased to three years or reduced below two years. The value of the scholarships has been fixed at £150 sterling a year, but, if in any particular case this amount is found insufficient, the Government will be prepared on good grounds to consider its enhancement. The scholarships are tenable in Great Britain and with the approval of the Secretary of State in a foreign country. It has

been decided to award one scholarship annually in Madras if a suitable candidate is forthcoming, but the Government will be ready to award an additional scholarship if any other specially promising and well-qualified applicant should be considered worthy.

4. The holder of the scholarship will not be bound by any engagement to serve Government on completion of his course nor will the Government be bound to employ him. In selecting candidates, Government will be guided by considerations of capacity, intelligence and practical interest in the industry selected, and the assurance that the candidate will continue to devote himself to that industry on his return to India. No age-limit is laid down for scholars. The course of study to be followed as well as the place in which it is to be prosecuted will be settled by the Secretary of State when a scholar arrives in England. Other conditions under which the scholarships are held are similar to those laid down for the existing Government of India scholarships, and are:—

(1) That the candidate is a native of India as defined in Section 6 of the Government of India Act, 1870, viz., "a person born and domiciled within the dominions of Her Majesty in India, of parents habitually resident in India, and not established there for temporary purposes only";

(2) That he has the consent of his family (i.e., of his father if alive, if deceased, of his guardian) to proceed to Europe or America;

(3) That his character is good;

(4) That he has sufficient knowledge of the English language; and

(5) That he is physically fit to undergo the course of life and study he will have to follow;

5. The following rules for Indian Government Technical scholars in England will also be published for general information:—

(1) Every scholar shall, on reaching England, at once present himself to the Secretary, Judicial and Public Department at the India Office, and report his arrival in writing;

(2) Every scholar shall, without any unnecessary delay, inform the Secretary of State to which University or College he is about to proceed, and shall at once take steps to enter himself thereat;

(3) Every scholar shall, within four weeks of reaching England, submit for the approval of the Secretary of State a statement showing the general course of study he proposes to follow; and the course approved shall not be changed without the sanction of the Secretary of State;

(4) Every scholar shall, at the end of each term of residence at a University or College, submit to the Secretary of State a certificate from the proper University or College authority, showing that his residence, conduct, and progress in study have been satisfactory during the term;

(5) Every scholar shall at all times obey such instructions as he may receive from the Secretary of State;

(6) Subject to a due compliance with the above conditions, the allowance, at the rate of £150 a year

for two years or three years, if so determined, will be paid quarterly, in advance, by the India Office, commencing from the date of the scholar's reporting his arrival in England; but this allowance shall be reduced by the amount of any other sum which may become payable to him out of the revenues of India in respect of residence at a University or College during the same period or any part of it, but not in respect of University or College fees, the cost of which will be separately defrayed by the Secretary of State. The necessary travelling expenses of scholars, by second class, or by third class if no second class be available, will also be separately defrayed by the Secretary of State; these should be claimed on forms obtainable from the Accountant-General, India Office, S. W.

Charges for hotel bills are not defrayed;

(7) Every scholar will forfeit his scholarship who, not being disabled by illness or prevented by any other cause which the Secretary of State may consider sufficient, fails to complete the required term of residence in England according to the terms and conditions approved by the Secretary of State under Rule 8, or who is guilty of misconduct or disregard of the orders of the Secretary of State. If a scholarship be forfeited, the scholar will lose his claim to a free return passage to India, and will further become liable to refund the cost of his free passage to England;

(8) The scholars will be under the special supervision and charge of the Political Aide-de-Camp to the Secretary of State, through whom the necessary orders will be given, and to whom all reports and other communications respecting them should be sent.

ADDITIONAL RULES.

(a) Every scholar must give a written undertaking that he will devote himself exclusively, during the tenure of this scholarship, to the study of the subject for which his scholarship was granted, and that he will return to India on its termination, and there continue to devote himself to the industry which he has studied. Any scholar who neglects his studies, or tries to work for any other profession concurrently, will render himself liable to forfeiture of his scholarship;

(b) Every scholar will be required to keep a concise daily diary to be certified by the authority under whom he is working, and to be submitted through that authority to the Secretary of State for transmission to India. He must also submit, in the same way, from time to time, full notes of the work on which he is employed;

(c) Scholars will be expected to continue their studies during the summer vacations of the institutions where they are working, with the exception of three weeks in each year, vacation study should, when possible, take the form of practical work.

MYSORE.

A CORRESPONDENT informs us that after the retirement of Mr. Cook, M.A., Principal of the Central College, Mr. J. Tait will be appointed Principal, as Mr. Weir, M.A., is on the running for the post of the Inspector-General of Education when Mr. Bhabha vacates his office.

TRAVANCORE.

We are glad to find that in the last final examination of the Madras College of Engineering, Mr. Varugis George, B.A., a younger brother of Mr. P. I. Varugis, B.A., B.L., has headed the list and consequently gets the "guaranteed" appointment of an Assistant Engineer. In this connection, it is pleasing to note that for the past two years two Travancoreans have carried away this much-coveted plum.

BOMBAY.

PRINCIPAL Selby, Director of Public Instruction, Bombay, in his report on the progress of education in that Presidency during the last quinquennium, remarks:—"Efforts of teachers, especially of Native teachers, to bring up children in the habit of reverence for age and respect for authority have unfortunately been greatly hampered by acts, speech, and writings of foolish and irresponsible political agitators anxious for a following of some kind, and careless whether it be composed of thoughtful men or silly children. Those persons do all they can to pack with school-boys' meetings called for the purpose of abusing constituted authority. Of course no serious Indian politician would talk politics to school-boys or feel elated at being followed and applauded by a crowd of school children. But meanwhile great harm is being done to the younger generation, many of whom are being brought up to be bad sons and bad citizens. The evil will probably work its own cure. Parents are now realising that they can command neither obedience nor respect of their children, and the natural leaders of the people are becoming disgusted and enraged by the rudeness and disrespect to which they are subjected from undisciplined youths. Hitherto they have shrunk from vulgar abuse to which opposition to the noisy minority exposes them, but they will soon in self-defence rally to the side of authority and reason."

The Government of Bombay in their Resolution on the Report, referring to the above remarks, observe as follows:—"The Government have perused with regret Mr. Selby's account of the undesirable influences to which the rising generation are subjected during their school life, influences which engender habits of disrespect and contempt for authority both of parents and teachers. While fully recognising the existence of this phase of the movement and the possibilities of harm to the community in general which it may induce, His Excellency in

Council considers that the ultimate extinction of this spirit of lawlessness must depend upon the good sense of the majority of parents and guardians in Western India, who should appreciate the value of discipline and regard for just authority, whether in family or school."

FEMALE EDUCATION.

At a meeting of representative ladies and gentlemen of Bombay held on the 15th instant in the Framji Cowasji Institute to celebrate the Jubilee of the *Stree Bodhe*, a Bombay Gujarati monthly, Mrs. Sarojini Naidu in an eloquent address in English impressed upon her hearers the necessity of giving education to the Indian women as a means of bringing about the social reforms which were so urgently advocated. Their women had ample capacity for acquiring mental culture. In fact they had inherited it from ancient times. But she urged that the education of women should not be confined to the narrow limit of attending schools, but should have a broader basis of culture which fitted them to take their proper place in the world. She thought the purdah system was one great stumbling block in the way of social reforms in this country. From her experience of Hyderabad she knew that Mahomedan ladies of high social position, on whom purdah was most rigidly enforced, felt the disadvantages of the system, and were yearning for a time when they could discard it. Of course, it was not possible to abolish the system all at once, but she thought that if a proper system of education was introduced and pushed on, the evil custom of purdah would gradually die out.

At the Bombay University Convocation held recently, His Excellency Sir George Clarke, Chancellor made a most remarkable speech in which he compared the condition of education in Japan and India. Japan, he said, spent seven times the amount per head as that spent in India. He was against centralisation and also condemned the restrictions on education introduced by Lord Curzon.

CALCUTTA.

A NEW Sanskrit institution has come into existence called the Ranavir Sanskrit Pathshala in connection with the Central Hindu College. The Pathshala is maintained chiefly from grants made by the Maharajah of Kashmir.

The staff consists of a Principal, assisted by thirteen pandits and there are now 150 students. Forty-five of these are boarders, residing in two hostels, where they get free board and lodging, the expenses being paid by the Maharajah of Kashmir and by Sir Jotindra Mohan Tagore, K. C. S. I., of Calcutta. In connection with it instruction is given in the *Vaidyut* system of medicine, and an *Ayurvedic* dispensary has been started this year. English has been made compulsory and is taught half an hour daily as a second language.

There are also two other Sanskrit Pathshalas at Pelibhit and Ballia, which, we are told, owe their existence entirely to private munificence and are flourishing institutions, especially the former.

THE example set by the Vellore Police Training School in teaching Shorthand for its pupils has been followed by the Police Training School at Ranchi (Bengal), where Phonography in Bengali is to be introduced.

THE members of the Indian Students' Association have selected its President, Babu Surendranath Banerjee, Vice-Presidents, Mr. J. Choudhuri and Mr. A. Rasul, and Secretaries, Babu Krishna Mohan Rai Choudhuri and Anathjivan Basu, delegates to the Bengal Provincial Conference to be held at Pabna this year.

It is expected that the new Agricultural College and Research Institute at Pusa will be formally opened during the current year. By the time the buildings are completed and fitted up, about 16 lakhs will have been spent upon them.

WORK has been started by the Public Works Department in connection with the construction of the Agricultural College at Sebour in the Bhagalpur District. The cost of the work will be about 8½ lakhs.

MR. Praphulla Chandra Ghose, M.A., of the Presidency College, has been awarded the Premchand Roychand Studentship for two years with possible extension for three years more. The position carries an income of Rs. 1,400 per annum, and Mr. Ghose will be required to carry on special investigation or work in connection with the subjects of English and Comparative Philology for which the studentship has been awarded.

BABU Romesh Chandra Sen, Principal of the Rajshaye College has endeavoured in a communication to the press to make out a case for partitioning or duplicating the Calcutta University. He regrets that the Eastern Bengal Province where there are a decent number of schools and colleges, and as many as 100 Indian Professors, is not represented in the Calcutta University. It is shown that 32.8 per cent. of the Matriculation candidates, 27.9 per cent. of the F. A. candidates, and 10.8 per cent. of the B. A. candidates belong to the new Province; that there are in that Province three first-grade, and twelve second-grade colleges may soon be added to the number.

THE Honorary Principal of the Bengal National College has received the following expression of opinion from Mr. Paul Bruhl, Professor, Civil Engi.

neering College, Sibpur, Bengal, on the character and quality of articles, implements and apparatus turned out by the Technical and Scientific Departments of the Bengal National College, Calcutta:—"I was particularly struck by the care which had been bestowed on the work in articles which come from a native source. One very often observes a want of finish and want of symmetry in design and execution, but the articles exhibited by you were not only of solid construction, but they showed in general that finish which is proper to all first class work. Some of the models indicated the exercise of great care and patience. As your College develops, I trust it will be found possible to increase your technical staff by the addition of a skilled glass blower, and a mechanic who is acquainted with detailed methods and processes of modern fine mechanics. You will also be able then to introduce into your workshops various special machine tools and measuring appliances, the use of which gives German and American instrument-makers the degree of excellence which is such a distinguishing character of their products. If you persevere in the work which you have commenced with such marked success, you cannot help becoming an important factor in industrial development and generation of your great country."

THE National Medical College, says the *Empire*, in Bow Bazaar has arranged for the treatment of consumption with ozone, a popular method in Europe. It is evident that this College is doing good work and we learn that there are about 300 students on the rolls from all parts of India.

MR. GILES, officiating Director-General of Education, proceeds on leave when Mr. Orange, Director-General, returns from leave at the end of March.

THE date of the Jubilee Convocation of the Calcutta University has been altered from the 7th to the 14th March. The Chancellor will be present and make a speech.

PUNJAB.

THE Syndicate of the Punjab University has appointed Mr. A. C. Woolner, M.A., Registrar and Principal of the Oriental College, Lahore, as the delegate of the Punjab University at the next International Congress of Orientalists which is to be held at Copenhagen in August, 1908. Mr. Woolner will leave Lahore on furlough to Europe in March next.

MR. Harkishen Lal, son of Pandit Bishen Lal, Assistant Surgeon, Khushab, has for the second time headed the list of successful candidates at the sessional examination of the Royal Agricultural College of England. He has gained 3,332 marks out of an aggregate of 3,600, and has received seven certificates of honour for having stood first in seven subjects, and has also been awarded two certificates of merit.

THE Syndicate of the Punjab University has recommended the distribution of Rs. 27,000 among the colleges affiliated to the University, being the Government of India's Grant-in-Aid of collegiate education. Applications had been received from nine colleges for amounts aggregating about one lakh of rupees. After considering which of the various needs set forth were most urgent, and in which of these cases aid was most needed, the Syndicate decided to recommend the payment of Rs. 9,000 to Edward's Church Mission College at Peshawar, Rs. 5,000 to the St. Stephen's College at Delhi, a similar amount to the Khalsa College at Amritsar, and Rs. 8,000 to the Islamia College at Lahore.

THE Punjab Government have selected six candidates who are to be sent to the Imperial Forest College at Dehra Dun for training during this year's term which begins on 1st April next.

THE following are the important Provincial rules of the Sikh Educational Conference to be held at Gujranwala in April 1908.

1. To ascertain the present educational condition of the Sikhs and to find out ways and means to ameliorate the existing state, it is proposed to form an assembly to be called "The Sikh Educational Conference."
2. To attain the object, this Conference shall try as far as funds permit.
3. Politics shall be strictly excluded from the programme of this Conference.
4. The Conference shall hold its Sessions at such places and on such dates as may be determined by the Standing Committee of the Conference from time to time.
5. This Conference shall consist of such delegates from various districts and provinces wishing to improve the educational conditions of the Sikhs and ready to make strenuous efforts for the same.

UNITED PROVINCES.

THE Proposed Rajput College and High School with boarding houses at Agra is about to become a reality says "The Bihari." Rajah Bulwant Singh, C.I.E., of Awa has announced that he has set apart Rs. 10 lakhs for the two purposes. Raja Udraj Partab Narayan Singh, C.S.I., of Bhinga, has followed suit and placed ten lakhs at the disposal of Government to found a college. These donations are really munificent and worthy of the noblemen who have given them.

AT the instance of Prof. Anukul Chunder Dutt, M.A., of the D. A. V. College, Rupees twenty have been collected from among the Buddhists of Lahore for the proposed erection of a Buddhist monastery near Lucknow on the site granted by the Government of the United Provinces.

INDIA (GENERAL.)

THE Board of Scientific Advice for India have appointed a permanent Sub-Committee to consider proposals for the institution and reform of scientific libraries in India and generally to deal with questions concerning such libraries.

MR. N. Don Martino de Zilva Wick Remasinghe, Librarian and Assistant Keeper, Indian Institute, Oxford, and Epigraphist to the Ceylon Government Archaeological Survey, has, according to a cable to the "Ceylon Observer," been appointed Professor of Pali and Prakrit, at Jesus College, Oxford.

The Indian Students' Association—its objects: To receive Indian Students on their first arrival in Great Britain, to assist them in finding proper accommodation, and to afford them counsel, friendly help and social introductions.

To advise them with regard to the profession, business, or special education for which they have come to Great Britain.

To extend a friendly supervision over those whose parents desire such protection for them, and generally to stand in loco parentis.

METHODS.

The Association will keep lists of respectable Boarding Houses and Lodgings, and of families willing to receive paying guests, providing for both vegetarians and non-vegetarians.

The Social Committee consists of ladies, living out of London, who will, from time to time, invite young Indians for week-end visits, and give them an opportunity of seeing English home-life.

The Association will keep list of openings for technical education, tutors, houses of business, etc., so as to help students to find the opportunities they need.

As soon as funds permit, a residential club will be opened, for the reception of a limited number of students.

The Association desires to work in friendly co-operation with any existing bodies following similar or allied lines, and in order to facilitate this its President has become a Life-Member of the National Indian Association.

The Association is strictly non-political and non-sectarian, extending an equal welcome to Indians of every creed.

MR. MYRON PHELPS wrote sometime ago that poor Indian students going to America for special education must be prepared to undertake job work in order that, by the money they may earn thereby, the school fees and boarding charges may be paid. No notions of false dignity should be permitted to prevent such kind of work to be undertaken. Running errands, vending news-

papers, and waiting at dinner tables are a few of the many avocations which open out sources for income. In the pursuit of knowledge, comforts must be banished and sacrifices must be made.

THE Imperial Government, says the *Englishman*, have for some time past, been considering the question of granting diplomas to students completing their education in Provincial Agricultural Colleges. They have addressed the local Governments in the matter as to whether these institutions should be affiliated to the several Universities, or separate diplomas should be granted by Government. The Imperial Government, however, are in favour of the latter alternative, as also some of the local Governments who have, furthermore, recommended that the Licentiates in Agriculture should have the same status as B. A's.

The death is announced of Pandit Kisery Mount Ganguly, the translator of the Mahabharata. The deceased had a world-wide reputation as an Oriental scholar. His translation occupied thirteen years and covered eight thousand pages. The work was subsidised by a Government grant of half a lakh of rupees. The Pandit was granted a literary pension by Lord Curzon.

MR. S. Thorburn, late of the Indian Civil Service, addressed a meeting of the Colonial Institute on "Education and good Citizenship in India:" in the cause of which he remarked that with good treatment of students here and proportionate representation in the Public Service in India it was reasonable to hope for the best amongst the "India for Indians" party, who would realise their present limitations and gradually achieve eminence by successfully competing with us in pursuits open to all.

SARDAR Salukam Singh, son of Sardar Sahib Bhai Ram Singh, Vice-Principal, Mayo School of Art, has left Lahore for Bombay en route to England to prosecute his studies as a mechanical engineer.

ONE difficulty that hinders, the progress of Female education in Upper India at any rate is due largely, we are told, to the paucity of teachers for girls' schools. In the Punjab the Government Normal School for Women, established nearly three years ago, has done something to help forward the good cause, and we note that private effort in this direction is not disposed to lag behind. The report of Kannia Maba Vidialia at Jullundur just issued a record of steady progress in the direction of popularising the education of women. 183 girls are on the rolls, many of them being also boards, and there is a staff of 18 teachers. This the Educational Department has more than once offered to encourage in every possible way.

Foreign Notes.

GREAT BRITAIN.

We have looked too exclusively (says the *Times*) to education as a means of enabling lads to do the best for themselves in the world. It will fail signally to give what is most required if it does not fit them also to do the best for others—if it does not enlarge their sympathies and interests and make them effective citizens.

At the annual dinner of the Bristol University College Colston Society, Mr. O. A. Wills, President, announced that his father, Mr. H. O. Wills, had promised 100,000*l.* towards the endowment of the University for Bristol and the West of England, provided that a charter be granted within two years. It was stated that of the 250,000*l.* required before the charter can be applied for, 197,000*l.* had been given or promised.

Dr. Cohen, a University Professor of Chemistry, spoke out strongly in the *School World* recently against the teaching of Chemistry as a school subject, and in the correspondence evoked by his article a Science Master complains that "each Professor wishes us, in our schools, to teach all but his own subject: the Professor of Chemistry tells us to teach Mathematics and Physics well, and he can teach the Chemistry; the Professor of Physics would have us send him pupils who have a thorough knowledge of Chemistry, Mathematics, French, and German, and he would like Physics to be a sealed book," and so on.

The *Westminster Review* publishes a very interesting article on "Chinese students in Japan" from the pen of a Chinese contributor, Mr. V. K. Ting. There are 1300 Chinese students in Tokyo, 500 in the United States, and 500 in Europe.

PROPAGANDA IN MAGAZINE AND BY PLAYS.

Mr. Ting gives an interesting account of the way in which the Chinese student influences opinion in China:—

Whilst learning, they make themselves heard in two ways: by means of the Press, and by delivering lectures during the summer when they return home for the vacation. The way they carry on the former is very interesting and ingenious. At one time, when their number did not exceed a thousand, no less than six monthly reviews of about 200 pages each were published. In fact, nowhere is it easier to start a magazine than among the Chinese students in Japan. Two or three promoters, a special meeting, a few speeches, and a general subscription, are all that is necessary. Contributors are volunteered, editors are elected, and both are gratis. With a very small sum of money and little time, they would print two or three thousand copies and send them to China for sale. By the time the

next number is ready for the Press, the money derived from the sale of the previous number has already come to hand, and thus they carry on their business, which, however, gives them no profit and requires a great deal of energy. These magazines are usually well written, and have a good number of subscribers.

The students in Japan have written several new and original pieces for their own acting—a fact that would shock even the most enlightened class seven years ago.

THEIR RELATIONS TO THE JAPANESE.

Mr. Ting complains that—

The Japanese, though very polite and hospitable to their European visitors, are strangely insolent and reserved towards the Chinese. No Japanese family of any distinction now ever troubles about or takes interest in the Chinese students, whom at first they welcomed in the enthusiasm: as soon as the novelty lost its charm, reaction set in and their doors are shut before their faces.

WHY, THEN, DO SO MANY STUDENTS GO TO TOKYO?

I could recount here some of the facts regarding the reason why. The simplicity of the Japanese language as compared with the European in itself would provide sufficient explanation. An intelligent Chinese has no difficulty in reading Japanese after three months' study. The brilliancy of wealth and power that is displayed in the West dazzles the Chinese students, and makes them lose their heads, but in Japan they do not run this risk, and have time to collect their thoughts. They learn at second hand, it is true, but not at second rate. Again, living in Tokyo is four times cheaper than in any European or American country, and, but for this cheapness, thousands of students would never have been able to leave their native land.—*Review of Reviews.*

"AGRICULTURE THE BASIS OF EDUCATION" is the title of a very suggestive paper in the *Monist* by Mr. O. F. Cook, who boldly challenges current opinions of training the next generation: Mr. Cook begins by saying that "interest is intellectual appetite." It is the index of the mind's readiness for the assimilation of knowledge. Formal instruction does not arouse interest, but can speedily deaden and destroy it. It results in a scholastic dyspepsia. "It is as though horse-breeders were to follow the methods of the hog-raiser or as though the system of producing fashioned geese were applied to game-cocks or to carrier-pigeons." Education means greater power of active, not mere plethora of erudition.

GERMANY.

It might justly be maintained that to qualify for Government positions, or for other reasons, the University graduates of Germany have attacked in fifty years, and with only the appearance of scholar-

RUSSIA.

ship, the work that might have employed genuine investigators for a century to come. The result is that as creative scholars arise they will find the field encumbered with previous studies too badly botched to be helpful, yet, unhappily, not quite empty enough to be negligible.

FRANCE.

A CURIOUS report comes from Paris, where it is said that a wonderful calculating girl, Mlle. Diamandi, has just been presented to the Society of Anthropology in Paris. In the presence of many eminent mathematicians she performed several remarkable feats, such as working out almost instantly, and by mental process only, the square of twenty-five figures, subtractions of sums of twelve figures, the square root of from eight to twelve figures, and the cube root of from six to ten figures. Mlle. Diamandi, who is only twenty years of age and of Greek origin, says that every figure presents itself to her mind's eye in a different colour. Thus No. 1 is always black, No. 2 yellow, No. 3 pink, and so on. This colour vision is constant, and is entirely independent of her own volition.

MR. VICTOR E. WARDEN gives a deplorable account in the practical teacher of the state of chaos that exists in Russian schools of to-day. For at least two years past, he says, no work has been done in the schools of Russia, except, perhaps, the rural common schools. From the Universities and other schools of equivalent rank, down to the secondary schools of all characters, teaching has been impossible and learning entirely lost sight of. Instead of pursuing the regular course of University studies, ninety-nine out of every hundred students have been engaged in filling their brains in the theories of Government. All the political "demonstrations," "manifestations," &c., of the past few years—except those of the Black-Gang—have been engineered by students. They have wrested from the Government a nominal autonomy for the Universities. But instead of utilising the new privilege to the full, they have been absorbed in political agitation, and there will be a deficiency of men qualified to fill University drains for years to come.

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The Educational Review.

The undue delay in the publication of the results of the last Matriculation examination of the Madras Matriculation results. Madras University gave rise to the alarming rumours referred to in our last issue. We are sorry to note that the published results have entirely confirmed those alarming rumours. The failures are startling; only seventeen per cent. have secured a pass. We can not state precisely all the causes that have worked to produce these disastrous failures. But we feel convinced that the examiners can not be exonerated from all blame. Only last year so many as thirty-three per cent. passed the Matriculation. Could it be said that within the course of one year the pupils and teachers of our high schools have deteriorated so much as to lower the percentage by sixteen. The only possible way of accounting for this sudden fall is that some examiners, if not all, have suddenly raised their standard of valuation. If this be not the real cause, it is the duty of the examiners, who profess to be experts, to make the causes of these failures known to the public. It is irrational to dogmatise about the incapacity of teachers and pupils, or the impeccability of expert examiners. The mere fact of a man being an expert does not prove him to be either a capable teacher or a fair examiner. As Lord Rosebury pointed out some time ago, examiners need to be trained as much as teachers. We repeat once again what we said in our last issue, that to be productive of beneficial results examiners should always co-operate with teachers. We are sure that some of the fellows of the Madras University feel that they owe a duty to the public, and are, there-

fore, hopeful that steps will soon be taken to remedy the pitiable fluctuation in the Matriculation results from year to year.

At its next meeting the Senate of the Madras University will consider the question of instituting degrees for oriental learning. There seems to be no special necessity for instituting degrees of this kind. The experience of the Punjab University in the matter of degrees for oriental learning ought to make the other Indian universities very chary in venturing upon a similar project. If the aim of the proposers of degrees in oriental learning is to encourage Sanskrit and vernacular studies, we believe that there is sufficient provision in the New Regulations for such encouragement. In what way would the pundit with his degree in oriental learning be better than the Master of Arts in Sanskrit or any of the vernaculars? On the other hand the Master of Arts with his broad culture would in every respect be superior to the pundit, whose ways merely set a high premium on memory. The pundit's ways belong to the days anterior to the invention of printing. The aim of a real university ought to be to train people to do something original rather than set its hallmark on those who carry a lot of ill-digested matter in their brains.

There has of late been much talk and writing about a national university for India. The aim of those who desire a national university is, we believe, to have a university entirely free from all governmental control. It is not likely that in the present state of India a university will flourish without special recognition from the Govern-

ment. If it be true that Lord Minto and Mr. Morley have expressed to Mrs. Annie Besant their sympathy for her idea of starting a national university, why should it be impossible to so modify the existing universities as to satisfy the needs and demands of a national university? The aim of all Indian universities, if they are to become national, should be the enrichment of the literature in the indigenous languages of the country. We are, therefore, inclined to think that the existing Indian universities ought to be reconstructed on the basis of the principal languages of India. Speaking with special reference to South India, there ought to be at least five different universities corresponding to the five different Dravidian languages. In each of these English and Sanskrit ought to be made second languages, while one of the Dravidian languages should form the principal language and the medium of instruction for all subjects. This might seem to be not attainable at an early date, but it is a consummation to be devoutly wished. For the Canarese and Malayalam languages the idea might easily be realised, if the States of Mysore and Travancore should take the lead. Even as they are our universities might have an oriental side, in which the English language is the second language and the vernaculars of the country form the principal languages. Only in this way would our languages receive a new impetus to growth and development.

At this year's convocation of the Bombay University held on the 18th instant the address was delivered by His Excellency Sir George Clarke as the Chancellor of the University. The address dealt with general principles, which lie at the basis of all nation-

al education and development. "The permanent advancement of a people," says Sir George Clarke, "can only be secured by the agency of its own inherent capacities stimulated by education suited to its needs. The inherited leaning towards metaphysical speculation which characterises the Indian mind seems to require the corrective of science, which education has at present failed to supply." Why education has failed at present to supply the corrective is rightly diagnosed by His Excellency. "To grapple with scientific subjects in a foreign language imperfectly assimilated must involve undue strain, and may entail learning by rote to the exclusion of that disciplining of the mind which all sound education should accomplish." Rightly does His Excellency view with disfavour the attempts at centralization in educational matters in a country so vast and so varied as India. "The Provincial Governments have the means of ascertaining provincial needs and provincial opinion, which they must desire to satisfy. Uniform rules, unfitted for universal application, may gravely retard progress, which a healthy rivalry between provinces would tend to promote. If, as in Europe, local conditions lead by a natural process to the development of special local facilities for teaching in some departments, means of communication are ample, and the occasional interchange of students between provinces would be beneficial."

In his presidential address to the Association of Public School Science Masters, Professor Miers dwelt on the dangers of scientific training. The study of science, it is generally believed, creates an open mind, capable of observing, weighing evidence, and

drawing inferences. But in practice the reverse is found often to be the case. The student of science, and even the expert scientist, are often found to be narrow-minded and dogmatic. The reason of this, in the opinion of Professor Miers, is the rigidly defined character of the so-called scientific training in our physical and chemical laboratories. Science teaching, confined wholly within the watertight compartment of a school time-table, often becomes dry and unproductive, especially when it has nothing to do with ordinary things and is wholly dissociated from the ordinary interests of life. Science teachers of Indian schools ought to grasp this fact. Children are by nature inquisitive, as is evidenced by the frequent questions they put upon all sorts of subjects. They desire to know all about the things they see around them. Hence to produce the scientific attitude of mind in his pupils the teacher ought always to start from the intelligent observation and criticism of what his pupils see around them in their daily life.

It is reported that the University of Allahabad has rusticated, at the instance of Mr. Jennings, Principal of the Muir Central College, a student of the M.A. class of the same college for no other reason than writing in one of his essays that "repeated famines in India are the result of the unceasing abnormal exports of her produce and the systematic exploitation by Englishmen of the resources of wealth in this country." We cannot bring ourselves to accept the truth of this story. The Syndicate of the University of Allahabad consists of responsible individuals, who would not demean themselves by rustivating a student

of the M.A. class for boldly expressing his opinion on an economic question, though it may be unpalatable to some Englishmen. Should, however, the story of this rustication be true, it speaks volumes against the attitude of mind of Mr. Jennings and men of his class. The Chancellor of the University of Allahabad has shown himself very sympathetic towards the children of the soil, and we hope he will have this matter completely investigated and see that justice is always done by the University. Rustication, we believe, is a measure that ought to be resorted to in exceptional cases, where the benefit of doubt cannot be given to the accused even to the smallest extent.

Is a teacher justified in scolding his pupils?

Scolding. Some people seem to think that a teacher has even the right to use abusive language to his pupils, if he does so with some pedagogic object and not merely with a view to insult the pupil addressed. We have known Indian teachers use scurrilous language to their pupils, and we cannot say what educational purpose the use of such language can serve. For our part, we hold that the teacher ought to be a power for good and an example for his pupil to imitate, and therefore consider unrestrained speech and abusive language to be unbecoming in a teacher.

India would do well to carefully study what is being done in Germany with regard to industrial education. The authorities in India are often in doubt as to the objects of industrial schools and the subjects of instruction therein. According to a recent programme sketched out for Wurttemberg the subjects to be taught in industrial schools

are: a knowledge of materials, raw or partly manufactured; industrial technology—that is to say, a knowledge of tools, machinery and working processes, with the principles of physics and chemistry bearing on them; industrial arithmetic and geometry; professional drawing and colouring, with the introductory stages of freehand, geometrical and projection drawing; modelling in various materials; workshop management. With this technical and professional education will be joined a certain amount of business training, which will include commercial arithmetic, book-keeping, bills and cheques, commercial correspondence, the making of estimates of cost, and the essential principles of commercial law. These subjects, we believe, can be taught with advantage in our secondary schools, which are now wasting their teaching power in preparing students for the utterly useless entrance examinations of our universities. Certain initial difficulties can easily be got over by making provision in the existing engineering colleges for qualifying teachers in secondary schools for technical work.

The following resolutions of the Modern Language Association are worthy of consideration:—
Age for beginning languages.

1. That before a scholar begins the study of a second language he should have developed some power of correct speaking and writing in his own vernacular, and should have acquired some knowledge of the functions of words and their grammatical relations to one another.

2. No age limit for beginning languages can be laid down which could be rigidly applied to the various types of schools for boys and girls where one, or more than one, foreign language is taught.

3. That a second foreign language should not be begun till a sufficient standard has been attained in the first, which in most cases would require two years' study.

4. That in schools where a modern and a classical language are both taught, the modern language should always be taken first.

In the recently issued Report on public Moral instruction in the United Provinces the Director of schools.

Public Instruction says:

"The absence of any religious teaching whatever in State schools of all degrees, makes the problem of imparting moral instruction peculiarly difficult." We cannot discern any direct connection between religion and morality. The former deals with things unseen and imaginary, while the latter deals with the tangible and real. The worth of a religion rises in proportion to the reinforcement which it receives from morality. The specific points, in which religion appears to be of value to morality, are obedience and fidelity, the sentiment of reverence, and respect for institutions. All these rest more on a social than a religious foundation. The chief way to acquire moral character is to become an efficient member of the institutions of society, and here the school can render service of the greatest importance. Education in Japan has had no connection with religion since olden times, and the modern system too is completely free from all sacerdotal influence. Secular morality forms the distinctive feature of the Japanese system, and has been productive of the most beneficial results. The Imperial Rescript on Education, issued in 1890, serves as a leading light to follow and forms the universal basis of moral instruction in all schools.

Two difficulties stand in the way of moral instruction in State schools in India. The Government being foreign, it can not consistently appeal to the people, as the Mikado has done in his Rescript, to always respect the Constitution, observe the laws and offer themselves courageously to the State. Diplomatic sentiments which prompt obedience to a foreign government naturally come into conflict with the ethical sentiments which call forth obedience to a keen sense of duty and patriotism. Worse than foreign government is the spirit of caste which has been fostered in the Hindu mind for ages, and has always hindered the growth of true ethical and humanitarian sentiments.

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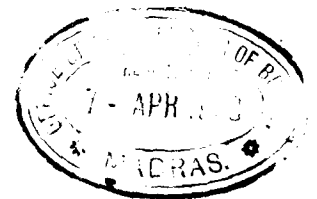
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NATURE STUDY.

THE panorama of the outside world is what is meant by Nature. It includes the plant and the animal kingdoms, the earth below and the heavens above. The rocks and the soils, the clouds and the seasons, the shrubs and the trees, the men and the lower animals are all included in it. Nature-study is that branch of instruction which deals with the above. It is opposed to book-study. It is the only kind of study wherein instruction is obtained from the real. However successfully a subject may be taught and however copious the illustrations may be, a few facts at least will have to be taken on trust and faith in the printed book stands in the stead of direct observation and perception. But in Nature-study no facts are taken for granted; every object is made the subject for observation; and inferences are drawn after thorough understanding and reasoning. Nature-study is but an extension of the observation lessons conducted in the earliest stages. The observation lessons aim at developing the observation powers of pupils but Nature-study proper helps not only this development but has for its object the exercising of the scholars in reflecting and reasoning upon the results of their own observations.

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The advantages of this study are manifold. It adds a new joy to our life. Who has not felt the delight of a pleasant evening ramble through fields in summer, and who does not recollect with pleasure the charming scenery of a woodland lake? With the afflicted, the murmuring brooks seem to talk and the green pasture over the banks is a refreshment and a delight to them. Ruskin loved trees dearly and found in their company much happiness. The bright stars in the canopy of heaven give us no less pleasure. Hours after hours do I now and then spend with pleasure in looking at the blue vault and observing the rising and the setting of the lovely Cassiopea, the pearl-like Chitta and the sickle resembling Makha. Truly, the poet of Nature tells us that

"Nature never did betray
The heart that loved her! 'Tis her privilege
Through all the years of this our life, to lead
From joy to joy"

It is no wonder therefore that we learn that there is an intimate connection between Nature-study and longevity of life. "These favourites of ours—the wild flowers" says Mrs. Lankéster "must be sought for—they call forth the energy and self-denial of their admirers, and while making great demands in the shape of country walks and mountain rambles, bestow on their captors rosy cheeks,

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the inestimable prize of healthful and vigorous frames."

Secondly, the study of Nature develops observation and perception. The senses are the gateways of knowledge and the eye is *par excellence* the most intellectual sense. If the organ of sight therefore be not properly used, one-half of the knowledge of external things should be a sealed book to us. Let our pupils be therefore trained to observe from their childhood. The art of observation does not come to us all at once unaided but by our systematic direction and wise guidance, we gain knowledge of the outside world as seen through the eyes of the poet, the artist, the biologist or the historian. When we look at the trees out of doors we may notice their characteristic branching, general contour, mode of growth, length of young wood and distance of inter-nodes; we may notice the color of the bark and what kind it is, whether it is corky, smooth or scaly; and we may ascertain if the trunk runs to the top of the trees or soon divides into big limbs which ultimately form the twigs. The angle at which the boughs are given off and the upward or outward growth of the twigs themselves should be more carefully studied. "All creation tempts observation and scrutiny." Leaves with their endless forms and devices take years to observe and to understand. To quote Ruskin's words "They take all kinds of strange shapes, as if to invite us to examine them; star-shaped, heart-shaped, spear-shaped, arrow-shaped; fretted, fringed, cleft, furrowed, serrated, sinuated; in whorls, in tufts, in spires, in wreaths, endlessly expressive, deceptive, fantastic, never the same from foot-stalk to blossom; they seem perpetually to tempt our watchfulness and take delight in

outstripping our wonder." Every minute spent in observing the growth of the insects around us is sure to bring its own reward. "Education therefore which insists on the use of the pupils' own senses as a pathway to knowledge will lay a right foundation and direct their activity and intelligence into proper channels during school-life and afterwards."

Thirdly, Nature-study enlarges our mental horizon and widens our outlook. It is a necessary complement of the exclusive study of books. The range of vision is extended and with it, the feelings of sympathy and interest are broadened. The social life of the trees, and the innate instincts of birds help to repress our selfishness and teach us that in isolation there is no happiness. Nature-study gives us an intimate knowledge of the life around us. It is only when our mental horizon is broadened that life as a whole presents itself to us and we gain a faint glimpse of the real solution of the problem of "living" simply and beautifully as it is surely meant we should live. "By day and night, summer and winter, beneath trees, the heart feels nearer to that depth of life which the far sky means. The rest of spirit found only in beauty, ideal and pure, comes there, because the distance seems within touch of thought." The importance of a study like this cannot be exaggerated, its effect on the development of the character of pupils is simply surprising. Again, Nature-study acquaints us with the simple phenomena of the outside world and develops a love for Nature. An interest in country-life is fostered which cannot but have a wholesome effect on the character of the pupils. "The why and the wherefore," give exercise to our reasoning faculties and teach us how to

search for causes. In no subject of study is the sense of beauty and order developed as in this all-absorbing occupation, *viz.*,—the study of Nature. For the proper discipline of the mind, a cultivation of taste is essential and Nature-study helps in forming it.

Fifthly, Nature-study helps pupils to assimilate and digest the mental food given in the other school-subjects. I am inclined to suggest 'Nature-study' as the central subject round which all the other subjects may be arranged and with which they may be correlated. Nature-study affords the best subjects for 'drawing.' It connects 'the observation lessons' or 'the object lessons,' as they are ordinarily called of the junior classes, with the practical work in which the children are likely to be engaged in after life so that they may labour intelligently. It acquaints us with the simple natural facts and changes which form the basis of physics and chemistry-teaching. It gives us a number of intelligent subjects for 'composition.' It is in this study that imagination is well exercised and we begin to appreciate the beauty of good poetry—the poetry of Shakespeare, Moore, Wordsworth and Tennyson. Who that has not seen the beautiful marsh-marigold can understand the spirit of the following lines of Shakespeare:—

"Hark! hark, the lark at heaven's gate sings,
And Phœbus 'gins to rise,
His steeds to water at those springs
On chaliced flowers that lies."

Who that has not seen the daisy can appreciate why Chaucer described himself as passing whole days leaning on his elbow.

"For nothing ellis and I shall not lie
But for Eokin upon the daisie
The emprise and flowre of flowres all"

Who is there that does not love to meet

"By rivulet or wet roadside
That blue and bright eyed floweret of the brook,
Hopes gentle gem, the sweet Forget-me-not?"

Again, intelligent recitation depends on thorough understanding and with the study of Nature much of what is written in poetry is easily learnt and can be reproduced with proper modulation and spirit. Nature-study is of an immense aid in learning geography. Geography teaching is not worth the name if arrangements are not made for the children to learn at first hand the ideas of hill, dale, rivulet, water fall, etc., and the influence of the physical features of the region upon the occupation of its inhabitants. The geography of a pupil's village is learnt through observation and when facts are intelligently learnt, his own village serves as a standard of comparison in his mind when he learns about other villages and districts. No less helpful is Nature-study to the study of history. It is Nature-study that enables us to ascertain the influence that environment, climate and natural tendency have on the histories of races. "If we do not care to understand how the great physical forces in combination with spiritual forces have affected the lives of communities, we can never enter into the spirit of history; we cannot help ourselves to a knowledge of what 'man' has done and is likely to do in it and why."

Such being the intimate connection between Nature-study and the other school-studies, I am once again tempted to recommend that this study may be made the centre or core of instruction from which may be made to radiate all the other syllabuses of studies.

Lastly, the moral value of Nature-study cannot be over-estimated. The peculiar adaptation of the structure of animals to their habits, the working of that highly complex

machine endowed with life, viz., the human being, the rotation of the different planets in their respective orbits and the formation of seeds in seed-boxes by the distribution of the golden pollen by insect life fill us with admiration and point us to a Creator who is all-mighty before whom we must all bow and pray for his blessings.

Longfellow well says :

" Wondrous truths and manifold as wondrous
God hath written in the stars above ;
But not less in the bright flowrets under us
Stands the revelation of His love.

Such being the importance of Nature-study, the Educational Department has seen its way to recommend it as an optional subject in the elementary schools and prescribe a knowledge of animal and plant-life as a compulsory part of the elementary school-scheme. This should mean a great change wrought with much benefit to pupils. This should re-act on the present methods of instruction in vogue and give to personal observation and experiment its proper place in education. I have no doubt therefore that well-intentioned teachers will take cheerfully to this subject but a difficulty may be felt as to what method should be adopted and it is to suggest to you a few thoughts on this subject that I have ventured to write this paper.

By word of preface, let me tell you that in this study as in other studies all suggestions about method, though expressed dogmatically, to save time and for want of phrases, should be taken *cum grano salis* and will have their value in education if adapted to local circumstances and corroborated by the results of personal observation and experiment.

Let us for a moment learn about the qualifications in a teacher essential for the success-

ful teaching of this subject. No teacher's certificate is necessary, nor is an elementary school-leaving certificate the minimum qualification. The chief requisite is that the teacher should have good eyes and know how to use them. The next requisite is that he should have enthusiasm, wide knowledge and love.

Nature-study is natural history, geology, physiography, physics and chemistry all combined in one. No teacher should be frightened by this list as it is not our aim to make our boys and girls scientific specialists. We do want to give them elementary notions about the objects and the surroundings familiar to them with a view to make them observe and think for themselves, to give them an intimate knowledge of the life around them; to widen their outlook and to train their sense of beauty, law and order. With a view to bring about the desired advantages, portions of the above sciences should be selected every year, syllabuses framed and work regulated according to them. Though much information is given through observation lessons in the early stages, I am inclined to suggest that *Nature-study proper* should be begun in the 5th school-year or after the completion of the child's ninth year, for, it is only, then, that the child's powers of voluntary attention and understanding the relation between causes and effects begin to manifest themselves. The same syllabus need not be repeated each year nor should there be a rigid uniformity of treatment from year to year. The choice of the subjects and the framing of the syllabuses depend on the circumstances of the school and the personal tastes and the qualifications of the teacher. The classification of soils, the uses of the different manures and their influence on plant-

growth, the insect-pests on agricultural crops and the life histories of insects, which are interesting subjects in a country-school cannot be taught to the pupils of an elementary school in Madras with the same success. A study of the sea-shore with its waves, high and neap tides, shells, soundings, and the harbour and of the science of the Tram car, the Railway train, etc., which is possible in Madras cannot be arranged for in an inland village. The teacher's taste is an important factor in the choice of the subject-matter for without a taste for the subject you will be lacking in enthusiasm and want of enthusiasm on your part results in want of interest on the part of the pupils. It is therefore necessary that every teacher of Nature-study should ascertain how his inclinations go, read a few popular treatises on that subject, and make the subject-matter in them a subject for personal observation and enquiry and make that subject his favourite theme so that his pupils may catch his spirit and feel in earnest over it.

Experimental lessons in gardens should form an important feature of Nature-study and should occupy a prominent place in the timetable. Every school walk and excursion should have a definite object in view. It should be carefully planned and requires previous preparation. The aim may vary with the destination of the journey and the time of the year. The aim of the walk may be previously announced to the class so that the attention of the pupils may not be distracted and school time wasted. But if such an announcement be considered to be of doubtful advantage to juniors the teachers should by means of catechetical teaching draw the attention of his pupils to the objects which he wishes them to observe and study. The pur-

pose should vary with the standard of the pupils and their previous experience in observation. The same excursion may be repeated in the different seasons of the year. During the walk there should be free conversation between the teacher and his pupils. He should lead the children to find out for themselves all that they can about the objects which the excursion has been planned. He is there to guide them and not to inform them. Children should be encouraged to draw simple general conclusions from the observations which they make. Everything observed should be got described. Life histories should here be studied. The following are a few of the subjects on which information may be gathered by the elementary school pupils during school walks.

Animals.—The size, shape, general appearance, habits, structure and adaptation of structure to habits of familiar animals, like the mouse, the frog, the snail, the spider, the earth-worm, the fish, and the common snake.

Insects.—The gradual development from the egg stage, the breathing apparatus, the distinctive structure for self-defence, and the adaptation to surroundings of familiar insects like the bee, the beetle, the butterfly, the dragon-fly, the grasshopper, the cockroach, and the silkworm.

Birds.—The peculiar structure for self-defence, the uses of wings, beaks, and feet, the making of nests, the food and the instincts of familiar birds like the sparrow, the fowl, the duck, the parrot, the wood-pecker, the owl, and the cuckoo.

Plants.—The method of growth, the adaptation to surroundings, the stages of growth, of the different kinds of roots, the kinds, uses, the peculiarities, age, structure and the method of climbing of stem, the size, the shape,

the colour, the veining and the surface of the *leaves*, the coverings and the foldings of the leaf and the fruit *buds*, the peculiarities of the floral envelopes and the process of fertilisation of the *flowers*, the kinds and the uses of the different kinds of fruit and the formation, the different kinds, the dispersal of seeds of familiar plants like the mustard, the poppy, the sunn-hemp, the rose, the water-lily, the bean, the grape, the orange, the groundnut, the tamarind and the cucumber.

Soils. The formation, the kinds, the composition, and the uses of the chalky, sandy and clayey soils.

Rocks. The different kinds, and the disintegration of familiar rocks, like the quartz, granite and gneiss, and stone.

The sky. The position of the sun, the different planets and the important constellations, the kinds of clouds, the rainbow, the dew, the thunder and lightning in the sky, the influence of winds and temperature on animal and plant-life.

The older pupils who have been trained to use their eyes may be asked to make excursions unaided by the teacher. A Nature-study calendar for each year may be prepared by the teacher which should show the names of the pupils who have been selected to go on a walk for a specified object, the observation of the young one of a frog, the first flower in spring, etc., and this will regulate the walks of the older pupils undertaken in the absence of the teacher. A record of the work done by those pupils, if hung in the school-room, is a sure incentive for further effort and a model for younger pupils to follow.

Excursions to Government museums, parks, botanical or horticultural gardens are of great advantage if undertaken with an

educational object in view and under the charge and guidance of an intelligent and enthusiastic teacher.

School gardens form another important feature of systematic Nature-study lessons. Wherever possible, gardens should be cultivated in the spacious compounds of schools and it is in these gardens that courses of experimental lessons should be arranged to be taught. In outside gardens we observe the changes occurring in nature and draw simple conclusions from our observations. But it is in the experimental lessons in school-gardens that we can question Nature. Experiment is absolutely necessary for clear thinking. Even in towns where spacious grounds adjoining schools are rarely to be found a wise teacher does not lose heart. He ascertains the necessary conditions for the experiment and arranges for them, though temporarily, with much trouble. Plants may be grown in pots or ventilated tins and the living or preserved specimens of the animal or insect-life to be examined may be obtained for love or for money. School-gardens may be of two kinds—one cultivated in a general plot of ground by all the pupils under the guidance of the teacher and with the help of which demonstration-lessons are given; and another, consisting of small plots belonging to individual pupils where pupils tend their own plants, make their own observations and learn habits of self-reliance and the dignity of manual labour. The local crops may be raised and a sale found for them. The following are some of the subjects for demonstrations in school-gardens:

Soils, situation and their preparation; land manures and their uses, the various tilling operations; the management and distribution

of seeds; the management of green vegetables; the different kinds of weeds and insect-pests and their removal; propagation by grafting cuttings; the reaping and harvesting of crops and rotation by reversion of crops and plants.

The third feature of Nature-study teaching is the provision for experimental lessons in the school. This may be chiefly intended to give pupils instruction in elementary science. Here as in other lessons, the experiments have to be performed with the aid of the pupils, and they should be encouraged to observe for themselves and describe the different stages of the experiments. The wrong notion that experiments are always associated with a costly laboratory should be dispelled from the minds of the pupils, and pupils should be encouraged to prepare wherever possible their own apparatus and make their own experiments. The following are suggested as subjects for these lessons.

Fire.—Its meaning, and how it is distinguished from chemical combination.

Air.—Its composition, the characteristics, the properties and the uses of the life-giving gas, the unfriendly and lazy gas, the poisonous gas, the lightest gas and the gardener's friendly gas and the use of moisture.

Earth.—Its chief composition; the distinguishing characteristics of solids, liquids and gases; and the influence of heat upon them, the influence of gravity and the other important forces of nature.

Water.—The characteristics of pure water and the removal of impurities in bad water; solution, suspension, crystallisation, filtration and distillation; steam and its uses; the pressure of water; and the principle and the use of water level, the syphon, the barometer, the water-pump and the thermometer.

Besides the above lessons on elementary science, a few lessons on plant and animal-life with the use of the microscope and the penknife may with advantage be arranged.

The last and by no means the least important feature of Nature-study instruction is familiar talks with children. This should not precede but succeed observation. These are necessary to bring home to the child's mind the important facts and truths learnt outside school, and to supply a connecting link between the different parts of a lesson in order to make the latter complete and a connected whole. A few cautions however should be borne in mind by the average teacher. Lecturing should be avoided and frequent appeals should be made to the results of the pupil's own observations. No information which is not the outcome of the pupil's first-hand knowledge should be attempted to be given. Wherever possible, technical terms should be avoided but where they are unavoidable, the meaning of the term and its appropriateness should be clearly explained. Wherever fresh difficulties crop up, the teacher should arrange to perform the necessary experiments to clear them. A ready and a judicious use of the blackboard is here also a great aid to successful teaching. The teacher should always bear in mind that if "Nature-study is taught from the book and the blackboard, it becomes worthless as Nature-study, even though interesting or useful information is imparted to the pupils."

Next we have to concern ourselves with some auxiliaries to Nature-study. These give an additional interest to the study and impress on the minds of the pupils the facts learnt by personal experience. Among these, the first place should be given to 'drawing.' Drawing from Nature is more interesting than draw-

ing from a flat copy. Experience will teach us that it is possible for every one to learn to draw. We may not become artists but it will be within our easy reach to learn to illustrate our lessons by blackboard sketches and to give expression on paper by shading or in colors to the images in our minds. Every child begins instinctively to draw before it learns to write. This instinct therefore may be utilised in Nature-study to clothe the study with additional interest. The drawing may be in black and white; it may consist of pen and ink sketches or it may be in water or oil colors. The drawings should be correlated to the Nature-study lesson and have a previously planned special aim. Children will learn far more about the butterfly or the beetle by trying to take its portrait than by saying "Oh, it is only a butterfly" or "Oh it is only a beetle" and letting it go with a mere passing glance. The twigs of trees may be made a subject for a beginner in drawing and by gradual steps the drawing of buds, catkins, galls, fruits, flowers and trees may be attempted. Specimens may be brought home and the drawing done at school. In these days of brushwork it is possible for every one to learn the art of using the brush and the colors.

Drawing to scale may be taught to pupils while young and they may be asked to draw the plans of their plantations. The drawing of graphs is an accurate record of observations and I strongly recommend that temperature and pressure of air graphs may be got drawn by every one of the pupils in the higher classes of schools.

The next help is the maintenance of Nature-study note books. The usefulness of this system was specially brought home to my mind by the excellent Nature-study note-books kindly forwarded to the recent Madras

Educational Exhibition by the Board of Education, London. In the early stages oral description should be considered sufficient but as pupils advance in the art of writing they may be asked to open note-books wherein they note whatever they observe. The teacher may at first guide his pupils by giving them the headings under which they have to group the facts and the truths learnt through their own observations, but later on, the pupils may be left to themselves and their work duly inspected. A separate note-book may be kept for each year and where many records have to be made, one preferably for each season may be maintained. Long and descriptive accounts should be written only after the teacher's talks on that subject happen to be over but the results of pupils' daily observations should be noted each day. A strongly bound note-book of thick paper is all what is wanted. The following may be taken as the headings in a note-book for school walks.

Name of school; date, time at which the school was left; the time of arrival at destination; weather; wind; and observations. It will be a wholesome rule if one page of the book is devoted to drawings and sketches. When work is done by individual pupils in their respective plots of ground in school-gardens, the following headings may be substituted:—

Date, description of work done; manner of seeds sown; period of germination in each case, observations about the growth of the plants, attacks by insects, etc; produce gathered, date and description; the temperature of the air and the soil.

If pupils are asked to keep in addition a book of income and expenditure—income from subscriptions, value of crops raised, etc.,

and expenditure for manure, seeds, use of tools, etc., I have no doubt that a practical training in the keeping of accounts will thus have been given.

When experimental lessons are given in class rooms the system of note taking is also of much advantage. The science note-books may then have the following headings:—

A description of the experiment, observations, inferences and remarks including figures, diagrams, and sketches.

After a familiar talk is over, the older pupils may with advantage be asked to make a digest of what has been learnt and to enter the same into a note-book for future reference. The entries should be brief and should not take much time. Specimen pages of what I consider to be proper entries are not here attempted to be given as it is feared that I will tax your patience.

Pupils who have learnt the art of photography may profitably add to their note-books an appendix containing the photographs of plants and animal-life taken by them during excursions.

The next help is the collected and preserved specimens of plant and animal-life. During the days when excursions cannot conveniently be undertaken, these serve the purpose of the originals and the work of observation may be conducted with the aid of these. Collecting is an instinct with children and we know how children bring home with pride and pleasure the treasures which their own tiny hands have collected. This instinct should therefore be utilised by teachers in giving an additional charm to the study of Nature. Let there be a limit to the number of things which each pupil may bring home. It will be a wholesome rule if pupils are generally ordered to keep to one plant or creature at a

time. Specimens of flowers, birds, leaves, stems, etc., may be carefully dried, pasted on cardboards, with their names underneath and added to the school museum. Specimens of insects caught should be carefully handled. They should be brought home in ventilated boxes. "The habit of collecting may become a habit of destruction and therefore the teacher should make the Nature-study class his opportunity for developing a respect for living things, for birds' nests and rare plants." "Children should pluck flowers carefully so as not to injure the plants; boys should be content with a single egg of each kind." "Prof. Hedgson of the Croft School believes that in these days of cheap textbooks by our best scientists, subjects can be studied without the cruel habit of "killing" at every available opportunity. The plan which he strongly advises all teachers to adopt is that instead of killing the creature it should be imprisoned for a short time so that it may be examined and its portrait accurately drawn or painted. Though this is a good plan, "killing" will have to be resorted to, though rarely. Opportunities will have to be taken to collect rare insects and to gather specimens which are illustrative of life histories and these when collected cannot with advantage be let off with a short imprisonment.

Special days, may be arranged for walks to gather specimens and these walks should be conducted under the supervision of the teacher and with previously planned aims in view. Older pupils may be encouraged to collect specimens during the holidays.

The collections should be carefully classified, arranged and properly labelled. The name of the collector on each label is a sure encouragement for pupils to gather specimens.

These Nature-study collections serve as nuclei for school museums which should be under the charge of an enthusiastic teacher and planned with a definite educational object in view. The following are recommended as some of the objects for collection.

Earth.—Fossils, various kinds of rocks from sand and clay to granite and quartz; minerals found in the locality and their natural ores; natural crystals, and natural forms of carbon.

Plant life.—Interesting sea and water plants; mosses and lichens, rare fruits, weeds, roots, and grasses, pressed leaves; the different kinds of nuts, acorns, catkins, galls and seeds.

Animal life.—Interesting animals in ponds and seas; life histories of the frog, the toad, the lizard, the butterfly, the dragon-fly, the ant, the bee, the locust, the silkworm; caterpillars, eggs, cocoons and nests; vegetable parasites; beehives; shells; horns; and the claws and the feathers of birds.

A small aquarium may be provided in schools so that living specimens may be kept. If a proper selection of aquatic plants and aquatic animals is made the need for a frequent change of water will be minimised.

Very many of the insects may be caught with the naked hand but a few require a net. The handiest net is the so-called kite or balloon-net described in an appendix to the book on "Indian Insect Pests" by Mr. H. Maxwell-Lefroy. A strong muslin bag with a stone at bottom attached to a circular hook provided with a handle will serve as a net for catching the small animals in ponds. The aid of "sugaring" and of light and light traps enable the collector to secure very easily many moths. Alcohol, chloroform and benzene are good agents for killing insects. The insects which have to be

killed may be thrown into a bottle at the bottom of which is placed a blotting paper dipped in a mixture of equal parts of benzene and chloroform. The killed specimens will have to be dried before they are pinned on to cardboards, mounted and properly labelled. A mixture of alcohol, spirit and glycerine preserves larvæ well. Wherever specimens of dead animal life are kept, naphthaline should be freely thrown.

Let me in conclusion once more bring to your notice that accurate observation and clear thinking is the chief aim of this interesting and highly instructive branch of study and that successful teaching depends more on the spirit with which the teacher enters on his duties than on any method of treatment which I have attempted to explain to you in this article.

MAHAKALI SUBRAHMANYAM.

THE TUTORIAL SYSTEM.

THE heading of this article may sound ambiguous to a small section of my readers, and may mean something entirely different from what I propose to write about, to perhaps a larger section of people. To the latter class of readers belong those who see in the newspapers such advertisements as 'Wanted a History Tutor for the Maharajah's College, Trivandrum,' and who have heard of similar tutors for all subjects in many of the Madras non-Government colleges. These so-called tutors supplement the work of the chief professors in the various subjects by examining the exercises set by those professors, and by paying individual attention to the students and by coaching them up for the different examinations. These tutors do very little teaching or lecturing work, and consequently

they serve only to emphasise the common idea in the minds of students and of some teachers and parents also that passing examinations is the sole aim of a college education. They are the human analogues, so to speak, of the 'Keys' and 'Companions,' which are published for the use (or abuse?) of lazy students.

In this connection, though I must apologise to my readers for not having still introduced them to my subject, I must not omit to mention that the popular idea of the aim of education above referred to, is most unfortunately entertained by certain people who are themselves of high educational attainments, and who occupy posts of professors and lecturers. They seem to forget the dictum 'knowledge for knowledge sake.' The ambition of a good teacher must be to create in the minds of his pupils a taste for the subject which he teaches, so that they may, after their collegiate course is over, spend their leisure hours in continuing and developing the study of their favourite subjects. We do find here and there some ideal teachers, but these are largely handicapped in their work by the variety and multiplicity of the subject-matter prescribed by the University; for within the short time at their disposal, even the best teachers find that they can, with great difficulty, but barely finish the prescribed portions, not being able even to revise some of the more difficult subjects. Under these circumstances, it is not just to find fault with well-intentioned and enthusiastic teachers for their not teaching a subject so fully and thoroughly as to awaken in their pupils an interest in it more than sufficient to make them pass examinations. The University has also another thing to answer for, namely the nature of the question papers set in the various examinations.

These papers are not such as to test the general knowledge and intelligence of the candidates, but are more in the nature of conundrums, requiring a sort of mental gymnastics for their solutions. But, thanks to the University Act, the new regulations seem to demand from students a more specialised knowledge of a less variety of subjects than heretofore; and therefore, it may become possible hereafter to teach a subject so as to make the pupils really love it. One reform which would seem to be necessary to ensure greater success in cultivating in students a habit of close study and research is the employment, as teachers, of persons who, though they have not passed any examination of a higher standard than the one for which they are preparing their students, are still known to have studied portions in the different subjects beyond those prescribed for the classes they teach: for, only to such teachers will elegant and simple methods of handling a subject suggest themselves. To take an example from higher mathematics, a teacher who knows at least the elementary formulæ in integral calculus can teach differential calculus much better than one who knows only the latter subject.

Having digressed rather too long on that meaning of the word 'tutor' on which it was not my avowed purpose to write, I now proceed to deal with the other meaning. So far as my knowledge goes, in two of the Government First Grade Colleges there exists a system of assigning every student, as soon as he is admitted, to the care of one of the lecturers, who is called his tutor, and whom the student is to consult in all matters in which he wants advice, whether relating to his studies or to his private life. The tutor is expected to keep himself in touch with everything concerning every one of the pupils under his

care. In one of the abovementioned colleges, the students meet their tutors on the last working day of every month, when the students may take any advice they want from the tutors, or the latter learn from each of their wards information about their doings in the month gone by. In the other college, the tutors never formally meet their wards at college, but are asked to go round and visit the students at their places of residence and submit to the principal a periodical report showing the health, attendance, and general progress in studies of their wards. In whatever manner supervision is exercised over the students, there is no doubt that some kind of supervision is wholesome. In principle, there is nothing new in this tutorial system, as it is something similar to the hostel system under which students, in addition to being fed and generally attended to with regard to their physical needs, are taken care of by the superintendent of the hostel who is to be in *loco parentis* to the students resident therein.

Now, under the new University Regulations, and perhaps also under the existing ones, one of the conditions of affiliation of a college to the University is that students should live either with their guardians, or in hostels attached to the college, or in private hotels certified by the college authorities as properly managed. No such rule seems to be enforced by the Educational Department in the case of recognised high schools, but something like it would seem to be necessary if the moral character of high school students is to be attended to. Everybody is bound to admit that there is greater need for the operation of such a rule in the case of high schools than in that of colleges, for high school students are comparatively young and impressionable, and their daily life during their

school period must be carefully watched inasmuch as then is the time when habits are formed. So, assuming that some such rule is enforced in the case of high schools, to think of having hostels attached to every high school would be only a visionary idea, as the majority of school-going students are poor, and hostel living is admittedly expensive. One can have some idea of the extreme poverty of some of our school students from the fact that many of them manage to live by taking their meals by turns in some two or three rich persons' houses, and make up their school-fees by contributions from other charitably-inclined folk. Consequently a hostel for a high school cannot be a success, unless the school has ample funds. Hence, if hostels are a necessity, high school students must be admitted as members of college hostels wherever these exist. But from more than one point of view, such intermingling of high school and college students is not desirable. Under these conditions, admitting the necessity for some sort of supervision over high school students by the school authorities, some sort of tutorial system such as obtains in the two colleges referred to above, must be introduced into high schools.

As regards boys in high schools reading in classes lower than the fourth form, their parents and guardians at home can be expected to take reasonable care of the young ones, and hence teachers need only look after them at school. So the tutorial system may be introduced only in the fourth, fifth, and sixth forms of high schools. For this purpose, the headmaster must first ascertain the places of residence of the students on the rolls, and distribute them amongst the various teachers, it being taken care that a student is assigned to a teacher near whom he lives.

The teachers must be asked to visit their wards occasionally, and submit periodical reports to the headmaster about the students' progress in their studies, their health, about their regularity of attendance, and last, though not least, about the teachers' general impressions of the student formed from continued observations. The teachers must co-operate with parents in preventing the students from going astray, and take care that bad or undesirable habits are not formed. The periodical reports will be very useful to the headmaster not only in finding out whether his school-boys are well-behaved, but also in determining the annual promotions, as he in that case need not base his conclusions solely upon the examinations which are at best only a very imperfect and unsatisfactory method of testing a candidate's ability.

But more important than this is the fact that such a system of supervision will tend to develop the moral side of the students in the right direction. As before remarked, it is during the school-going period of young boys that their habits and doings must be carefully watched. It is a notorious fact, that some of our grown-up high school students are not models of ideal students, but, on the other hand, are persons of such vicious habits as a decent school must be ashamed to admit. The reason of this is not far to seek—namely the absence, in the majority of our higher schools, of any provision for the moral education of students. Some enlightened people seem to think that a moral text-book must be introduced into schools, and be made a compulsory subject for examination. In accordance with their suggestions, some schools now have religious classes regularly before regular school-work begins. But, with due deference to the opinions of these moral class institutors, it must be said that these classes can go but

a little way to elevate the moral tone of students. The motto 'example is better than precept' is nowhere else more true than in the case of giving moral education to students. The teacher must, by setting a good example himself for the students to follow, develop their moral instincts. And such an example can very easily be offered to the students, by adopting in every school some sort of tutorial system such as is herein advocated. If the scheme as outlined here is not found workable, the details can be varied while the underlying principle is kept the same. In this connection, I cannot do better than close this article with the wise words of His Excellency the Governor of Bombay in the course of his address on the occasion of the Convocation of the Bombay University. He said, addressing teachers: "Your responsibility is great, and your profession is second to none in honor. Give your best ungrudgingly with the consciousness that you are helping to shape the destinies of India. Remember that personal influence is all powerful in moulding character, and can be won by sympathy alone. Seek not only to impart knowledge, but to inspire. Thus will you attain the highest satisfaction that life can give the sense of duty faithfully and worthily performed."

K. S. P.

LIBRARIES AND LIBRARIANS.

THE Educational Department is to be congratulated on the provision it makes for libraries in colleges and secondary institutions. The Grant-in-Aid Code is apparently very liberal in the matter of libraries inasmuch as a half grant is promised, in that behalf—a larger amount than for teaching purposes. Some institutions are lucky enough in securing the promised grant while others after weary waiting are told that no funds are

available. Such tantalizing is beneath the dignity of any department of a rich Government—much more in the case of the Educational Department which is supposed to sow the seeds of good character in the young mind and provide it with refreshing and informing reading. But this is by the bye.

The purpose of this article is to consider the condition of libraries and librarians in schools and colleges and to point out how they may be made better instruments of education than they are at present in the majority of institutions.

The remarks of Inspectors on the libraries of schools and second-grade colleges invariably point to some defects and suggest various remedies for putting them on a better footing. Few Inspectors of Schools consider the financial aspect of their recommendations as it seems to be none of their business. "Do it within a fixed time, or the recognition will be withdrawn," thunders the oracle and it is echoed from the Old College, Nungambakam to the terror and dismay of both managers and masters. Rome was not built in a day is only a proverb and is not applicable to matters affecting the educational policy in India in the twentieth century. Instead of these empty threats, we should like to see the Department loosen its purse-strings and bear the entire cost of fitting up libraries in colleges and secondary schools. The Department is better fitted for the task of selecting books suited to the various standards of instruction as it has better information in regard to books than managers or masters in out-of-the-way corners of the Presidency. This is a dream that is never to be realized so long as the mania to increase the inspecting staff and their correspondence has hold of the hearts of the powers that be. We have too many Inspectors on rich salaries and corresponding travelling allowances and too little money to be given in aid of strug-

gling schools which are doing good work.

Even as they are, the libraries may be made more useful. All antiquated books on science should be removed and their place supplied by the latest books. So with history and geography. Literature is such a wide field that choice becomes difficult. Enterprising English publishers are now issuing cheap editions of classical works in excellent paper and binding. Messrs. Dent & Co., Messrs. Collins and Sons, and Messrs. Nelson and Sons are sending out monthly the cream of English literature in the cheapest form. A couple of hundred rupees every year will do and the same process continued for five years will furnish a school or second-grade college with a tolerably good library of literature. To effect all this, we should have a sympathetic, liberal and well-informed management. It is unfortunate that most school-committee members regard their work in the committee as a pastime for their leisure and forget all about the school after the meeting is over. Many of them are noisy at the meetings and their zeal cools the moment they go home and recline on their easy chairs after thundering at the bar or scribbling at the desk. There are few managers who devote their attention single-heartedly to school. A membership on a school committee tickles their vanity and they boast of a contested election or appointment in which they had carried the day. Few regard school management as a sacred duty demanding whole time attention. The sooner such committees are dissolved by the Department, the better for education in this country. We don't want dabblers, we want honest, energetic, sympathetic and liberal men to guide education in this country just now, because the times are critical. All the so-called "Unrest" in this country is attributed to the evil effects of the education imparted in schools and colleges. Mr. H. G. Keene, a

retired member of the Indian Civil Service thinks "The ambitious and disaffected persons were enabled to render the (Indian) Universities a machinery for the dissemination of their ideas." Mr. V. A. Smith says: "The recent scandalous behaviour of so many University students in various parts of India emphasises the necessity for this fundamental reform. If the Universities were restricted to their legitimate function—the giving of superior education to the small class really requiring it—these mobs of mis-called "University students" would not exist. They are really only naughty school-boys and should be treated accordingly." The readers of the *Review* must lay to heart the warning conveyed to the Indian Government in these extracts and he will be a bold man who assures us that Indian education has no danger ahead.

We ought not to be satisfied with a decent library alone. The officer in charge of the library must be one who takes an interest in letters and who loves books with a strong yearning to communicate his knowledge to the younger generation. Glass bureaus, books well-bound and gilt-edged do not disseminate knowledge. A miser's hoards never benefited suffering humanity. One of the most egregious blunders committed by many managers is to appoint as librarian a human being who has no knowledge of letters and who thinks his duty well done if only he preserves the books untouched and unsullied and visits are paid to them like those paid to ladies in the zenana of a Turkish monarch. If a manager is sincerely anxious to improve education by creating a taste for wholesome literature, he must not hesitate to spend on such a master as much as he spends on any of the senior assistants in his school or college. So long as mere hewers of wood and drawers of water are selected for the post of librarian, education must be backward. A

sympathetic librarian is sure to do better work in education than an *ignoramus* in charge of a library. Even in Government institutions, the mistake of appointing mere clerks as librarians is committed. If it is the intention of the managers whether Government or private that real education should be imparted, the first thing that should be insisted on is to appoint a proper librarian whose knowledge of books is wide enough and whose taste may be depended on for recommending to the young who thirst after knowledge the right sort of books. We shall then see little of the detective stories, and less of Dumases and Reynoldses. When little ones are left to themselves, they naturally fall into errors. A person capable of directing the young in the matter of what they should take and what they should avoid is a *sine quâ non* for every school which has any reputation for efficiency. It has been the unfortunate experience of the writer that he is yet to see a school in which a really educated man is librarian.

A TEACHER.

ON GRAPHS.

(Continued from *Feby. No.*, p. 65.)

IN the last article, I was dealing with graphs of expressions of the form $ax + b$, which was for brevity's sake denominated y . This is the simplest rational expression involving the unknown quantity x and therefore there was not the slightest difficulty in dealing with it. But it is possible that we may have to find out the graphs of expressions, irrational and

clumsy, such as $\pm b\sqrt{\frac{x^2}{a^2} - 1}$. As usual we

call it y , thus $y = \pm b\sqrt{\frac{x^2}{a^2} - 1}$, squaring we

get $y^2 = b^2 \left(\frac{x^2}{a^2} - 1 \right)$

$$\text{i.e., } \frac{y^2}{b^2} = \frac{x^2}{a^2} - 1 \text{ or } \frac{x^2}{a^2} - \frac{y^2}{b^2} = 1.$$

Thus instead of the rather inconvenient expression $\pm b \sqrt{\frac{x^2}{a^2} - 1}$ involving two signs and a surd, we get at this simple relation between x and y , where be it observed, y stands for this expression. Consequently if we find out the values of y for different values of x from this relation and find out the curve, this will be the graph of the original expression. This is expressed by a change of phraseology; thus instead of saying that we find the graph of $\pm b \sqrt{\frac{x^2}{a^2} - 1}$, we say that we trace the curve $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$. Thus the graph of $\pm b \sqrt{\frac{x^2}{a^2} - 1}$ is the curve represented by the equation $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$. According to this phraseology, the graph of $ax + b$ is the straight line represented by the equation $y = ax + b$ or $ax - y + b = 0$.

I will begin with some definitions:

(i) *Locus*. A locus is the curve traced out by a point which moves so as to satisfy certain condition or conditions. Thus, suppose a point moves so that its distance from a fixed point is always the same. Euclid's definition of the circle tells us that all points on it are equidistant from the fixed point within it, the centre. Therefore the locus required is a circle. Again let a point move so that its distance from a fixed straight line is always the same, or as is usually stated *constant*. We know that the perpendicular distance of any point on one straight line from a parallel to it is equal to the distance of any other. Therefore the locus of the point is a straight line parallel to the fixed line.

(ii) *Infinity*. The word is an abbreviation of the word indefinite, and may be taken to mean 'not definite.' The first idea we get of infinity is in the definition of parallel lines, 'they are such as however much they may be produced never meet.' So far as we can see for a finite distance, they do not meet, i.e., they do not meet at a definite distance. This is the negative view; a slight transposition of words gives us the positive view, that parallel lines meet at an indefinite distance, i.e., at infinity.

The curve next in order of simplicity to the straight line is the circle, which is the graph, as we will see, of $\pm \sqrt{a^2 - x^2}$. To find the graph of $\pm \sqrt{a^2 - x^2}$, i.e., to trace the curve $x^2 + y^2 = a^2$.

$$\text{Here } y = \pm (a^2 - x^2)^{\frac{1}{2}}.$$

The term involving x in this expression is of the second degree and therefore for a value of x , whether it be positive or negative, the value of y is the same; and therefore for one point on the curve on the positive side of the line OX, or as it is called the *axis of x*, there exists another point on the negative side occupying an exactly similar position. Further as a value of x gives two values of y differing only in sign, the same holds for the positive and negative sides of the line OY or the *axis of y*. When such is the case, the curve has the same aspect when viewed from either of the lines OX, OY, and is said to be *symmetrical* with respect to the axes of y and x or both axes.

For the sake of simplicity we will deal with the particular case when $a = 4$. We then have $y = \pm (16 - x^2)^{\frac{1}{2}}$.

$$\text{When } x = 0, \quad y = \pm 4$$

$$x = \pm 1, \quad y = \pm \sqrt{15} = \pm 3.9 \text{ (nearly)}$$

$$x = \pm 2, \quad y = \pm \sqrt{12} = \pm 3.5 \text{ (")}$$

$$x = \pm 3, \quad y = \pm \sqrt{7} = \pm 2.7 \text{ (")}$$

$$x = \pm 4, \quad y = 0$$

When $x > +4$ (arithmetically) or < -4

(algebraically), $16 - x^2$ is negative and has therefore no square root or as is mathematically expressed its square root is imaginary. This shows therefore that there are no points on the graph whose abscissa is greater than $+4$ or less than -4 .

The greatest value of y is when $x = 0$, for x^2 cannot have a negative value when x is real. Thus as $y = \pm 4$ when $x = 0$, y cannot be greater than $+4$ or less than -4 . Hence as before there are no points on the graph whose ordinate is greater than $+4$ or less than -4 .

Take points A, A_1 on the positive and negative sides of the axis of x (X, OX) and B, B_1 on the positive and negative sides of the axis of y (Y, OY) such that $OA = OA_1 = OB = OB_1 = 4$ (numerically). Draw the square passing through the points A, B, A_1, B_1 and having its sides parallel to XX_1, YY_1 as shown in the figure. Then the graph lies wholly within this square and A, A_1, B, B_1 are points on it.

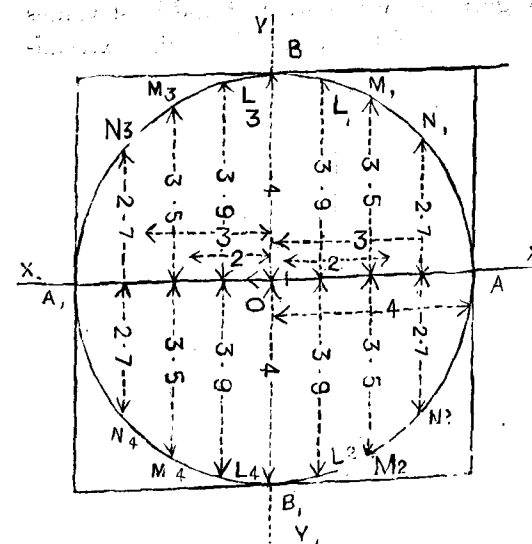


FIG. 13.

When $x = \pm 1, y = \pm 3.9$. This gives four points on the graph whose co-ordinates are $(+1, +3.9), (+1, -3.9), (-1, +3.9),$

$(-1, -3.9)$. Find these points and denote them by L_1, L_2, L_3, L_4 . Similarly let the points whose co-ordinates are $(\pm 3, \pm 2.7)$ be (M_1, M_2, M_3, M_4) and (N_1, N_2, N_3, N_4) . These 16 points $(A, A_1, B, B_1, L_1, L_2, L_3, L_4, M_1, M_2, M_3, M_4, N_1, N_2, N_3, N_4)$ all lie on the graph. Similarly if other points be found by giving different values to x , we arrive at more points on the graph. Joining these points together we find the graph to be a circle. We observe that (1) the centre of this circle is the point O (2) the radius is 4. Thus the graph of $\pm \sqrt{16 - x^2}$ or the curve represented by the equation $x^2 + y^2 = 16$ is a circle whose centre is the point O or the origin and whose radius is 4 or $\sqrt{16}$. And in general the graph of $\pm \sqrt{a^2 - x^2}$ or the curve represented by the equation $x^2 + y^2 = a^2$ is a circle whose centre is the origin and whose radius is $\sqrt{a^2}$ or a .

The circle shows us that when x and y are connected by the relation $x^2 + y^2 = 16$, the greatest and least values of x and y are $+4, -4$ respectively.

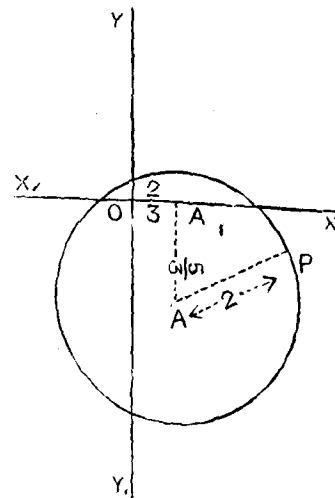
The graph traced above has the simplest possible position with reference to the origin O, which is the centre of the circle. The circle may occupy any other position relative to the point O, in which case the graph will not be represented by an equation of the form $x^2 + y^2 = a^2$, but will also contain terms involving x and y . We proceed to find out the equation which will represent any circle whose position is given. This equation will be a relation between x and y , which will if we so desire give us the expression whose graph the circle is. A circle is fixed if we know the distances of the centre from the lines XX_1, YY_1 , i.e., its co-ordinates and its radius.

Let the circle be as drawn in the figure. (a, b) are the co-ordinates of its centre so that $OA_1 = a, A_1A = b$, and its radius is r . If

The diagram shows a circle with center A and radius r . The circle is positioned such that its center is at a horizontal distance x from the Y -axis. The circle intersects the Y -axis at points V (bottom) and S (top). It intersects the X -axis at points R (left) and T (right). A point P is located on the upper right portion of the circle. A vertical dashed line from P meets the Y -axis at point A and the X -axis at point K . The horizontal distance from the Y -axis to the center A is labeled x . The horizontal distance from the center A to the point K on the X -axis is labeled $x-a$. The radius AP is labeled r . The origin of the coordinate system is labeled O . The points V_1 , A_1 , P_1 , and T_1 are marked on the X -axis, corresponding to the projections of V , A , P , and T respectively.

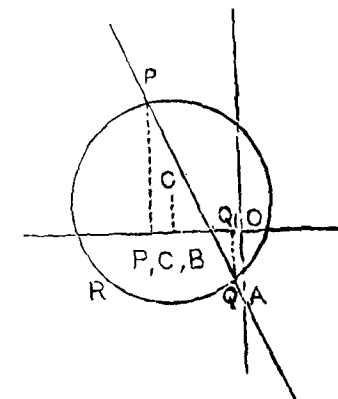
Conversely any relation of the form
 $(x-a)^2 + (y-b)^2 = r^2 \dots \dots (1)$
i.e., $x^2 + y^2 - 2ax - 2by + (a^2 + b^2 - r^2) = 0$
represents a circle, the co-ordinates of whose
centre are (a, b) and whose radius is r . In
this relation we notice that (1) the co-eff-

Given the relation (1) between x and y , to find graphically the greatest and least values of x and y . If T, V and R, S be the extremi-



ties of the diameter of the circle in Fig. 14 parallel to OX, OY respectively and VV_1 .

$OP_1 = 3.2, P_1P = 4.6, OQ_1 = 1, Q_1Q = 2,$



and therefore represent circles whose centres are the points whose co-ordinates are $(1, 2)$ and $(-2, 3)$ respectively and whose radii are 1.4 and 4.5 (approximately). They are the circles PQR and PQR₁ in Fig. 17 with centres C₁ and C₂ where $OC_1^1 = 1$, $C_1^1C_1 = 2$, C_1P (radius) = 1.4 $OC_2^1 = 2$, $C_2^1C_2 = 3$, C_2P (radius) = 4.5. These circles meet in the

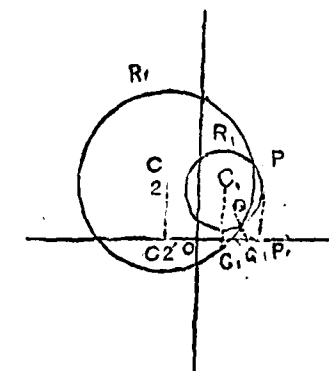


FIG. 17.

points P, Q whose co-ordinates we find by measurement to be (2, 1) and (2.4, 2.2) which therefore are the values of x, y satisfying equations (i) and (ii).

$$(c) \text{ Solve } (x-5)^2 + (y-6)^2 = 4 \dots (i) \\ (x+2)^2 + (y+3)^2 = 1 \dots (ii)$$

Drawing these circles, we find that they do not meet at all. They have therefore no real points in common and there are no real values of x and y satisfying these equations. This can be verified algebraically.

The curve next to the circle in its simplicity is the one whose graph is represented by an expression of the form $\sqrt{4ax}$, i.e., whose equation is $y^2 = 4ax$. It is called a *parabola* and is the locus of a point which moves so that its distance from a fixed point is equal to its (perpendicular) distance from a fixed straight line. We observe then for any particular value of x, y has two values differing only in sign. It follows therefore that for a point on the graph on the positive side of the line OY, there is another point occupying the same position with reference to the line OY, and according to the phraseology we used before, the curve is symmetrical with reference to the line OX. We further observe that when x has a very large value, y also has a very large value and thus when x becomes equal to infinity y also becomes equal to infinity. Thus we see that the curve is not limited in extent but goes off to infinity. Moreover when x is negative, there are no real values for y and therefore for no point on the graph has x a negative value i.e., the graph lies wholly on the positive side of the line OX.

Let us trace the curve $y^2 = 4ax$.

When $x = 0, y = 0; x = \frac{a}{4}, y = \pm a;$

$$x = \frac{a}{2}, y = \pm \sqrt{2a} = \pm 1.4a$$

(approximately)

$$x = a, y = \pm 2a; x = 4a, y = \pm 4a$$

and finding values of y for other and inter-

mediate values of x , we find points on the graph and shape it as drawn in Fig. 18. In that figure $OS = a, SL = SL' = 2a$. We see that the graph satisfies all the conditions as regards symmetry, etc., that we mentioned.

Take OO' on the line $OX, = OS$ or a and draw a line $O'M$ through O' parallel to YY_1 . Let P be any point on the parabola and draw PM, PN perpendicular to $O'M$ meeting OY in R and OX and join SP . Then since ON, NP are the co-ordinates of the point P

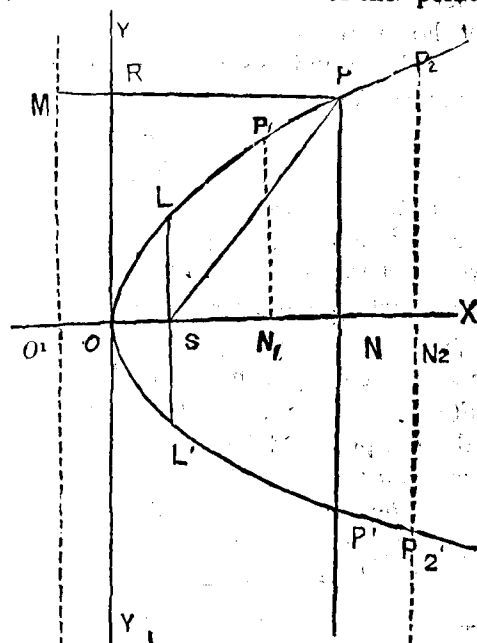


FIG. 18.

on the curve $y^2 = 4ax$, we have

$$PN^2 = 4a \cdot ON$$

$$\therefore SP^2 = SN^2 + PN^2$$

$$= SN^2 + 4a \cdot ON \text{ and } SN = ON - OS \\ = ON - a$$

$$= (ON - a)^2 + 4a \cdot ON$$

$$= (ON + a)^2$$

$$= (ON + OO')^2 \text{ since } OO' = a$$

$$= O'N^2 = PM^2 \text{ by parallels.}$$

$\therefore SP = PM$ and the point S and the line $O'M$ is fixed. Thus the distance of any point P on the parabola from the fixed point S is

equal to its distance from the fixed straight line $O'M$, and therefore our definition of the parabola as a locus is satisfied.

The parabola represented by the equation $y^2 = 4ax$ can be constructed mechanically as follows:

Let a ruler MM' move with its one extremity always on the fixed line MO' and perpendicular to it. To the other extremity let a string

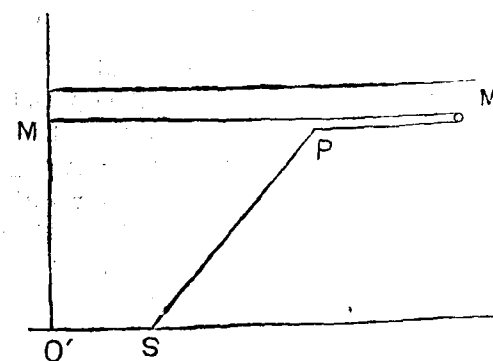


FIG. 18 (1).

be attached equal in length to the ruler, the other end of the string being attached to the fixed point S where $O'S = 2a$. Then if the string be kept tight for all positions of the ruler, by a pencil having its point on the ruler, (as shown in Fig. 18(1) where P is the point of the pencil), the pencil will describe the parabola. For $SP + PM = \text{length of string} = MM' = MP + PM'$ and therefore $SP = PM$.

To describe the parabola represented by the equation $(y - y_1)^2 = 4a(x - x_1)$ — we will see hereafter that this represents a parabola — we proceed as follows. Measure the point O_1 whose co-ordinates are (x_1, y_1) and through O_1 draw X_1O_1X' and Y_1O_1Y' parallel to OX and OY . Thinking for a moment that the point O_1 represents the point O and the lines O_1X_1 and O_1Y_1 , the lines OX, OY , describe the parabola $y^2 = 4ax$. This will be the parabola represented by the equation given above.

In the equation $y^2 = 4ax$, the only term of the second degree is y^2 , a perfect square. This, in a general form, is the criterion for a parabola: if an equation of the second degree represents a parabola, the terms of the highest order in it, i.e., those involving x^2, xy and y^2 must be a perfect square.

If we take $4a$ as the unit of length, then the equation of the graph represented in Fig. 18 becomes $y^2 = x$ and therefore the abscissa of any point on the graph is the square of the ordinate, thus $ON = PN^2$ and the ordinate is the square root of the abscissa, thus $PN = \sqrt{ON}$. This can be utilised to find the squares and square roots of expressions. Suppose we are required to find the square of 1.1. With the ruler, we can easily find the ordinate P_1N_1 whose length is 1.1. Measuring the abscissa ON_1 of P_1 , we find the square of 1.1. We measure it to be 1.2 (exactly 1.21). To find the square root of any number say 2.25 measure a length $ON_2 = 2.25$ along the line OX and draw the ordinate N_2P_2 . The length of this ordinate which can be found by actual measurement gives the square root required. We find $N_2P_2 = 1.5$. The two points P_2, P_1 in the figure where $P_2N_2P_1$ is a straight line have the same abscissa ON_2 , P_1N_1 being numerically equal to P_2N_2 but differing from it in sign. Thus we see that any number ON_1 has two square roots, numerically equal and differing in sign.

If the abscissa is negative, then there is no point on this parabola $y^2 = x$ having this abscissa. This shows that a negative number has no real square root.

The parabola represented by the equation $x^2 = 4ay$ occupies the same position with reference to the line OY as that represented by $y^2 = 4ax$ occupies with respect to OX , the interchange of letters x and y in the equation leading to that of the lines OX, OY along which these distances are measured.

A, X, A₁, X₁ as represented in the figure so that OS = OS₁ = ae, OX = OX₁ = $\frac{a}{e}$ where $e = \sqrt{1 - \frac{b^2}{a^2}}$ and is therefore

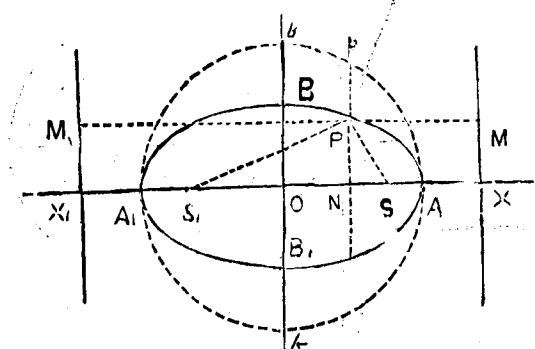


FIG. 21.

constant (since a, b are given) and less than unity. Through X, X₁ draw lines XM, X₁M₁ perpendicular to OX. Then the sets of point and line (S, XM); (S₁, X₁M₁) are the fixed point and line referred to in the definition of the ellipse as a locus, the constant ratio therein mentioned being e (< 1). Thus if P be any point on the ellipse whose perpendicular distances from XM, X₁M₁ is PM, PM₁ respectively, then

$$SP = e \cdot PM \text{ and } S_1P = e \cdot PM_1.$$

Therefore $SP + S_1P = e(PM + PM_1) = e \cdot XX_1 = e \cdot 2OX = e \cdot \frac{2a}{e} = 2a$ and the ellipse, it follows, may also be defined as the locus of a point which moves so that the sum of its distances from two fixed points is constant. This can be utilised for mechanically describing the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$. The points S, S₁ being fixed by their distances $\pm ae$ from O, let the extremities of a string of length $2a$ be attached to them. Keep the string tight by a pencil with its point on it. The extremity of the pencil will describe the ellipse.

Describe the circle $x^2 + y^2 = a^2$ or $\frac{x^2}{a^2} + \frac{y^2}{a^2} = 1$. This is represented by the dotted line A₁BA₁ in the figure. If PN be the ordinate

of any point P on the ellipse, and NP be produced to meet the circle in p , $PN = \frac{b}{a} \cdot pN$.

Thus if every ordinate of the circle $\frac{x^2}{a^2} + \frac{y^2}{a^2} = 1$ be contracted in the ratio $\frac{b}{a}$, the contracted curve is the ellipse represented by the equation $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$. This relation might have been anticipated from the analogy between their equations.

We next proceed to consider the curve represented by the equation $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$ or the

graph of the expression $y = \pm b \sqrt{\left(\frac{x^2}{a^2} - 1\right)}$.

We notice, as in the case of the ellipse, that this graph is symmetrical with respect to the lines OX and OY. When $x < \pm a$, $\frac{x^2}{a^2} < 1$ and

therefore the values of y for such of x are imaginary. Hence for no points on the curve are $x < \pm a$ and therefore there is no portion of the graph lying between the values $+a$ and $-a$ of x . As x increases, y also increases; and when x becomes equal to infinity, y also becomes equal to infinity. The curve

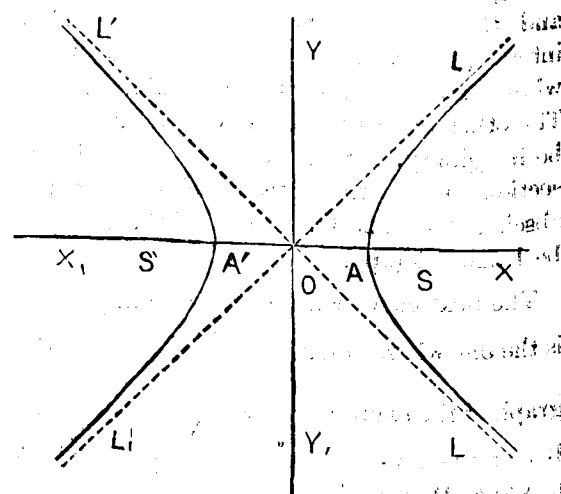


FIG. 22.

therefore is not limited in extent. We find points on the graph by giving different values to x : it is the two curves represented in Fig. 22.

This graph is called the hyperbola, whose locus-definition is the same as that of the ellipse with this modification. In the hyperbola the constant ratio is greater than 1 while in the ellipse it is less than 1.

In the figure we notice that the two lines L₁OL₁ and LOL₁ approach the curve, the distance between the curve and the lines decreasing as the values of x and y increase numerically. These lines touch the curve at an indefinitely large distance from the point O or as it is expressed, they touch the hyperbola at infinity.

The curve represented by the equation $xy = c^2$ is also a hyperbola but differs from that drawn in Fig. 22 in its position with respect to the lines OX and OY.

The equation gives $y = \frac{c^2}{x}$.

When $x = 0$, $y = \infty$; $x = \infty$, $y = 0$; and therefore the extremities of the lines X₁X, Y₁Y at infinity are points on the hyperbola which this equation represents. These lines X₁X, Y₁Y correspond to L₁L₁ and LL₁ drawn in Fig. 22, which we stated meet the curve at infinity. x and y can assume any positive or negative value and therefore we see that there is no restriction as to the position of the curve. By giving values to x intermediate between 0 and ∞ , we find the shape of the curve to be as represented by the thick curved lines in Fig 23.

For positive values of x , y is always positive; and for negative values, y is always negative. This explains why no portion of the curve is situated in the space bounded by the lines OX, OY₁; and OX₁, OY.

The hyperbola represented by the equation $xy = -c^2$ is similar in form to that represent-

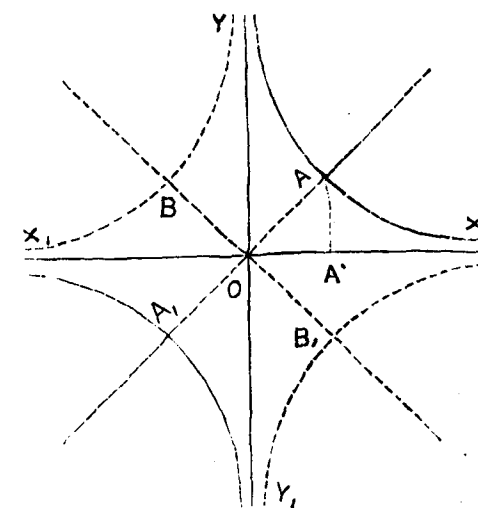


FIG. 23.

ed by the thick lines in Figure 23 but is situated differently with respect to the lines OX, OY, OX₁, OY₁. It is represented by the dotted lines in Fig. 23 and is situated diagonally to the other hyperbola.

In the hyperbola $xy = c^2$, when $x = c$, $y = c$. This is the point A in the figure and lies on the dotted line OA which is the graph of x and the distance $OA = \sqrt{OA_1^2 + A_1A^2} = \sqrt{2}c$. The hyperbola is as it were bisected at the points A, A₁ and is symmetrical with respect to the lines AA₁, BB₁ which are the graphs of x and $-x$ respectively. Knowing these facts, there is no difficulty in describing either of the hyperbolas $xy = \pm c^2$ for any value of c .

For all points on this graph, xy is constant being equal to c^2 ; and we see from the figure that the points on the graph whose co-ordinates x, y are arithmetically least are A and A₁ for both of which $y = x$ numerically. Thus for points on the graph x, y and therefore a fortiori, $x + y$ is a minimum at the points A, A₁ where $y = x$ and xy , we know, is constant at these points being equal to c^2 . We therefore get the well known result that when xy is constant, $x + y$ is a minimum when $x = y$.

This hyperbola can be utilised to solve cubic equations. Consider the equation in its general form $ax^3 + bx^2 + cx + d = 0$... (i)

This gives $x(ax^2 + bx + c) + d = 0$

Putting $y = ax^2 + bx + c$... (ii)

we get $xy = -d$... (iii)

Thus the roots of the cubic (i) are the abscissæ of the points of intersection of the parabola represented by the equation (ii) and of the hyperbola represented by the equation (iii), both of which curves can be described, as indicated in the preceding pages. We will take the particular case when $a = 2$, $b = -7$, $c = -1$, and $d = -12$. As we have seen before the roots of this equation $2x^3 - 7x^2 - x - 12 = 0$... (iv)

are the abscissæ of the points of intersection of the parabola $y = 2x^2 - 7x - 1$... (v) and of the hyperbola $xy = 12$... (vi)

The first equation can be written in the form $y + \frac{1}{2} = 2(x - \frac{7}{4})^2$; and the parabola and hyperbola are of the shapes represented in Fig. 24 where $OO_1 = \frac{7}{4}$, $O_1O^1 = \frac{5}{8}$, $OA = OA_1 = \sqrt{24} = 4.9$ (very nearly).

These curves meet in only one point P, whose abscissa OP^1 is measured to be 4. Thus

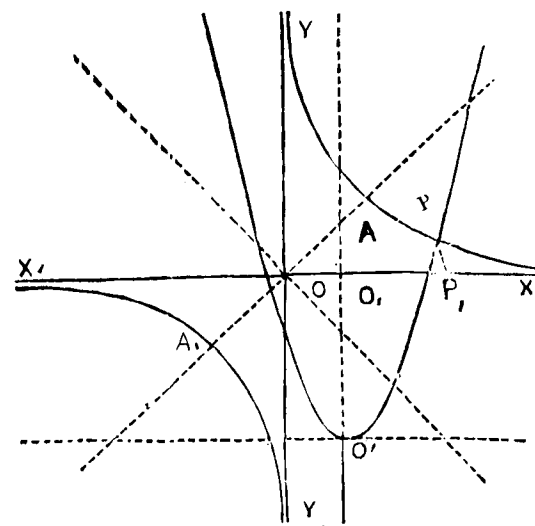


FIG. 24.

the cubic (iv) has only one real root = 4, the other two roots being imaginary.

A biquadratic of the form

$$ax^4 + bx^3 + cx^2 + bx + a = 0$$

can be solved by the graphs we are acquainted with now. For dividing by x^2 and grouping the terms, this may be written in the form $a(x^2 + \frac{1}{x^2}) + b(x + \frac{1}{x}) + c = 0$.

Putting $xy = 1$ in this we get

$$a(x^2 + y^2) + b(x + y) + c = 0$$

and therefore the roots of this biquadratic are the abscissæ of the points of intersection of the circle represented by this equation (the coefficients of x and y being the same) and of the hyperbola $xy = 1$.

(To be concluded.)

SCHOOL FINAL EXAMINATION.

The following Government Order is published for information. Any communication which any one interested in the scheme may have to make should be addressed to the Secretary to the Commissioner for Government Examinations so as to reach him not later than 20th April 1908.

G.O. No. 212, EDUCATIONAL, DATED 20TH MARCH 1908.

The Government have for some time past had under consideration the question of the institution of a School Final Examination in this Presidency.

2. An examination of the nature of a School Final Examination already exists in Madras under the name of the Upper Secondary Examination. This examination was established in 1889 with the object of substituting for the Matriculation Examination a fresh examination with a higher standard as an entrance test for the public service extending the control exercised by Government over Upper Secondary Education by providing an examination for such Upper Secondary Schools as might elect to develop on com-

mercial or technical lines and to give up, in whole or in part, the preparation of pupils for the University. The examination thus created has, from the first, failed to achieve the objects which it was intended to secure. The High Schools have not been induced to any appreciable extent to develop the commercial or technical education which was in view in 1889, and have preferred to keep their curriculum in accordance with the requirements of the University, while candidates for the public service have found it more advantageous to pass the Matriculation Examination and thus qualify both for University studies and the public service than to appear for the Upper Secondary Examination which admits to the latter alone.

3. The Governor in Council now considers that it will be in the best interests of education to withdraw the recognition of the Matriculation Examination as an entrance test for the public service and to institute a School Final Examination which will serve both as an entrance test for the public service and as a final test for young men who are leaving school and who desire to enter a school of professional or technical teaching which is not connected with the University.

4. It seems desirable that the new School Final Examination should be so organized as to embrace a wider range of studies than the Matriculation Examination and to guarantee not merely that a boy has passed a certain test but also that he has gone through a definite course of study in a recognised school and that during the period which he has spent at such a school he has conducted himself in a satisfactory manner. They are also of opinion that the scheme should be so formulated that the examination will be acceptable to the University as a substitute for the Matriculation Examination either in whole or in part.

5. The Governor in Council accordingly resolves to refer this question to a Committee

consisting of the Director of Public Instruction as President, four officers of the Educational Department to be nominated by the Director of Public Instruction and four non-officials. A roughly sketched scheme is appended to this order and the Committee will be requested to consider and revise it so as to carry out the objects specified above and also with reference to the following observations:—

(1) The compulsory subjects for the examination should include either general elementary physics or some specific branch of physics.

(2) The vernacular test should be both thorough and practical.

(3) The number of optional subjects which a candidate should be permitted to take up should be limited to two and the examination in the optional subjects should be so co-ordinated as to make them as far as possible of equivalent examinational value.

6. The Committee will also be requested to consider whether the examination in English should not include also précis-writing and indexing.

7. The Syndicate of the University of Madras, the Council of Native Education and the Missionary Council of Aided Education will each be invited to nominate one non-official as its representative on the Committee. Their nomination should reach the Government not later than 15th April next.

8. The report of the Committee should be submitted to Government not later than the 15th June 1908.

9. The non-official members of the Committee will be granted the travelling allowances admissible under Article 1004, Civil Service Regulations.

DRAFT SCHEME OF SCHOOL FINAL EXAMINATION.

1. *Examination when to be held.*—An examination styled the School Final Examination shall be held annually in the subjects herein-

after mentioned, beginning, as far as the compulsory subjects are concerned, on the

It shall be held at such places as may, from time to time, be notified.

2. *Objects for which instituted.* The Examination has been instituted to test the attainments of pupils at the close of a secondary school course.

3. *By whom to be conducted.*—The examination shall be under the control of an Examination Board consisting of the Director of Public Instruction as President, four officers of the Indian Educational Service and three members appointed thereto by the Syndicate of the University of Madras.

The members of the Board shall be appointed for a period of three years and shall be eligible for re-appointment.

The Secretary to the Commissioner for Government Examinations shall be Secretary to the Board.

The Board shall arrange for the conduct of the examination in accordance with the provisions of this notification.

4. *To whom open.*—The examination shall be open to pupils who have completed a course of instruction in a secondary school provided—

(i) that the pupil shall have completed the age of 15 years on or before the first day of the month in which he appears at the examination;

(ii) that the pupil shall have been in one and the same school during the school year immediately preceding the examination and shall have been a pupil of a recognised school for a minimum period of two years;

(iii) that the school or schools attended by the pupil throughout the course of instruction shall have been recognised by the Director of Public Instruction as providing an efficient course of instruction in the subjects selected by the pupil;

(iv) that the pupil produces a certificate in the subjoined form signed by the headmaster of the school he is attending at the date of applying for admission to the examination:—

I hereby certify that.....has attended.....not less than 120 days of the previous school year, that he has completed a course of instruction in the following subjects.....and that his conduct has been satisfactory.

5. *Private candidates.*—Candidates who have not attended any recognised school during the period specified above in Rule 4 will be admitted to the examination only under exceptional circumstances, such as physical inability to attend school or other causes sufficiently proved in the opinion of the Board to excuse non-attendance. The Board will decide all such exceptional cases on application specially made to it. Such application must contain a full statement of the case and must be submitted so as to reach the Board on or before the.....of the year in which the examination is held, accompanied by a satisfactory certificate of good conduct and the prescribed fee which will be returned if the application is rejected.

6 *Subjects of examination.*—The following will be the subjects for the examination:—

Compulsory.

1. Arithmetic.
2. English.
3. The Vernacular.
4. History of India and General Geography of the World.
5. Elementary Physics.

Optional.

Any two of the following subjects:—

1. An additional language.
2. History of England.
3. Chemistry.
4. Mensuration and Practical Geometry.
5. Book-keeping.
6. Commercial Arithmetic, Correspondence, and Geography.
7. Shorthand and Typewriting.
8. Botany.
9. Agriculture.

Female candidates may present Hygiene and Domestic Economy, Botany, Music or Typewriting with or without Shorthand.

Drawing or Manual Training may be added to any of the subjects.

7. *Publication of results.*—The Director of Public Instruction on the recommendation of the Board will publish the results of the examination in the *Fort St. George Gazette*.

OUR ENGLISH LETTER.

BRISTOL, March, 1908.

The Education Bill has come at last. Mr. McKenna launched it upon its dubious course in a speech that was in singular contrast to that which entranced the House two years ago. There was nothing of the literary finish, none of the splendid indiscretions that marked Mr. Birrell's speech. To Mr. McKenna it was a matter of business, and his speech was short and practical. He employed none of the arts of oratory but, showed a useful gift of lucid exposition though here again he fell short of the masterly skill displayed by Mr. Asquith three days later in introducing the Licensing Bill. What is to be the fate of Mr. McKenna's Bill? It is significant that an attempt has been made to weaken the control of the Lords by making the essential clauses of a financial nature. The Lords wrecked Mr. Birrell's Bill, as Mr. Birrell has not yet forgotten, if one may infer anything from covert references that fall from his lips on the public platform. Twice he has been their victim. Mr. McKenna is trying to win a victory over them by avoiding a conflict at all as far as possible. And he regards this as a last attempt at a reconciliation of the ecclesiastical interests involved. 'If we fail once more, if we continue to disagree, we shall have given the most powerful impetus in our generation to the opinion that religious education in the schools is a last cause.' This is an ultimatum. What grounds are there for

hoping that this suggested compromise will find acceptance? We shall see this best from a brief revision of the proposals made in the Bill.

'Down to 1902, and to-day, there are two kinds of public elementary schools—the provided and the non-provided. It is proposed that there shall be but one type of public elementary school, provided by the public, managed by the people, and with the teachers appointed without religious tests.' This is the cardinal principle of the Bill as Mr. McKenna stated it. Only one type of public elementary school, but alongside of these schools there are to be found others—voluntary schools which have availed themselves of the privilege of 'contracting out.' By this means they will retain their old denominational privileges. Tests for teachers and special religious teaching will be open to them. They will be obliged to keep their standard up to that of the public schools. The Board of Education will maintain a strict supervision by means of inspectors—under a Liberal administration at any rate.

Another main feature of the Bill is the increased aid that the Treasury is giving. A new scale of grants is to be adopted which will amount on the average to £2 7s. per child. This will mean an increase of from four to six shillings a child and will entail an additional expenditure from the Exchequer of a million and a half. This will go far to relieve the overburdened local authorities. And inasmuch as the average Briton protests even more loudly against rates than against taxes this fresh grant will be welcome to everyone but the Chancellor of the Exchequer whose battle for economy is proving so severe. Thus the Bill provides for the co-existence of two entirely different types of schools. In single-school districts the school must be a public one, and this gives the Nonconformists what they have so clamorously demanded. But in districts where there is a choice of schools, the interests of the voluntary schools are to be studied. There can no question of the fact that they are hard

hit in country districts by the Bill. For they are forced to hand their schools over to the public authority and can only insist that Cowper Temple teaching shall be given, while in some cases there is provision for denominational instruction but it has to be given out of school hours by teachers who are not members of the regular staff. And the advantages that are given to the Voluntary Schools in the town areas are not altogether without their drawbacks. To avail themselves of their privileges a steady contribution of funds from private sources will be necessary, and it is to be doubted whether it will be forthcoming.

It is instructive to notice the reception that has been given to the Bill. Mr. McKenna's task is none the easier for the fact that he has Mr. Balfour as his chief opponent in the House. And he could have no more formidable antagonist. Mr. Balfour is a master of debate, and has this subject at his finger ends. This Bill is designed to overthrow his own settlement of 1902, and in consequence Mr. McKenna need hope for no quarter. Mr. Balfour denounced the Bill in the House in no measured terms. This is certainly a question on which he makes no claim to the open mind. There is no possibility of doubting his position in this matter. He regards this Bill as an attack on the Church of England, a deadly blow to the Voluntary Schools whose supporters can hardly be expected to support the intolerable financial burden that will be imposed on them. Moreover it withdraws from the Central Education Authority the power of co-ordinating education. We shall hear much talk of 'spoliation' and 'confiscation' in the next few weeks.

What is the view of the Nonconformist? The Free Church Council has expressed its approval of the Bill, though naturally enough it does not commend all its provisions. A compromise is never enthusiastically welcomed. But Mr. Scott Lidgett, who has every right to speak on this matter, has made a

very wise pronouncement which ought to commend itself to others on his side. He recognizes that we do not start with a clean sheet. If the interests of the brewers and publicans have to be considered in a Licensing Bill because of the financial interests at stake there is surely every ground for studying the interests of those Denominationalists who have not only held beliefs that demand respect but have testified to their convictions by the financial backing they have given them. The opponents of Voluntary education must not expect to ride rough-shod over the Voluntary system. The legislator must conserve existing interests. The reformer must show a conservative spirit, or he is a revolutionary rather than a reformer and must expect reprisals and reaction. Accordingly there are only two courses open. We may either secure a universal system at the cost of looseness within that system, or we may establish a rigid national system and allow certain means of escape from its restrictions. The former was Mr. Birrell's method. His notorious Clause IV entrenched denominationalism inside the national system, *imperium in imperio*. But there were fatal objections to this course. It gave scope for the secret introduction of denominational tests with the tacit consent of the State. While it professed to destroy all such tests, and it also brought in a Parents' Committee to hamper the local administration. Mr. McKenna has taken the second course, and it was the only alternative. The *British Weekly* pointed this out months ago, and we may suppose that the weight of its influence will be thrown in the scales on the side of the Bill. So we may take it that the Free Churches will accept the measure because it gives the parent for the first time a statutory right to claim a place for his child in a free public school, it emancipates the country districts and removes conscientious object, at any rate on the part of Nonconformists. 'Contracting out' is not welcomed, but is accepted as the only way out of the difficult and as an

attempt—to prove successful or unsuccessful—to deal with a vested interest that has its roots in what is finest and best in human nature.

This is the way in which the case appears to both sides. No extremists favour it. It is as distasteful to Mr. Perks as to Lord Halifax. But the Nonconformists at least seem likely to work on its behalf. How does it appeal to those who are interested only in the purely educational side of the question? They see in the displeasure of the extremists a testimony to the honest endeavour of the Government, but view with something like dismay the prospect of having schools are to depend largely for their upkeep on private benevolence. Where is the guarantee for educational efficiency? The supervision of inspectors? *Quis custodiet custodes?* (The exact quotation has been lost in the years that have passed since *juvenal* was a thorn in the superabundant flesh of your correspondent). Inspectors have failed before to screw managers up to the point of efficiency. Inspectors are not inquisitors, and are not always willing to condemn when condemnation means extinction of the struggling victim. There is this undoubted flaw in the Bill, but strict administration may possibly mitigate the defect, though past experience does not make us optimistic. But on the whole the Bill will be welcomed as an attempt to solve a difficulty which is almost insoluble apart from secular education which itself is not an ideal solution by any means. The Bill is likely to go through, despite the pronouncement of Lord Hugh Cecil that it means either slow torture or sudden death for Church Schools—'the rack for town schools, for country schools, the guillotine.' A remark in the *Journal of Education* is worth quoting as representative of the attitude of those whose care is not for party interests. "Lord Hugh Cecil tells us that 'the vast majority of the zealous, active, and devout members of the Church of England are opposed to Cowper-Temple Teaching.' Among the Laodicean, passive and profane minority must be reckoned Canon Henson, the Bishops of Hereford

and Carlisle, and ninety laymen out of every hundred." Other topics of interest must be kept till next month. Much might be said of the abounding activities of the younger Universities.

Reviews and Notices.

THE NEW MATRICULATION SOUND, BY R. W. STEWART, D.Sc. (LOND.) W. B. CLIVE, LONDON. 1908.

This book has been written primarily for the use of students preparing for the Matriculation Examination of London University. The first six chapters of the book are devoted to a simple exposition of vibratory motion and wave motion. The remaining ten chapters deal systematically with the elements of sound proper. The treatment throughout is elementary and experimental. The book may be studied with advantage by candidates for the Intermediate Examination in Science.

A FIRST YEAR'S COURSE IN GEOMETRY AND PHYSICS, BY EARNEST YOUNG, B.Sc. GEORGE BELL AND SONS, LONDON. 1908.

According to the new regulations of the Board of Education, all schools desiring to earn grants must take a four years' course. This book has been prepared to meet the requirements of the first year's work, which is interested to be mainly practical and experimental. It is divided into three parts. The first part furnishes a combined course in Geometry and Physics, the second part contains the second and third term's work in Geometry, and the last part contains the second and third term's work in Physics. The method adopted throughout is heuristic. No elaborate instructions are given for the use of mathematical instruments or for the performance of the exercises and experiments.

THE INDIAN PENAL CODE, BY R. A. NELSON, PRINCIPAL OF THE LAW COLLEGE, MADRAS, 4TH EDITION. SRINIVASA VARADACHARI & CO. 1908. PRICE RS. 12.

Mr. R. A. Nelson, Principal of the Law College, is to be congratulated on his having

brought out the Fourth Edition of his "Indian Penal Code." Before the publication of the First Edition of his book, the well-known commentaries of Mr. Mayne on the Indian Penal Code, justly held the field: But the learned discussions and the comprehensive treatment of the subject at his hands resulted in his book being a ponderous volume, more useful for purposes of consultation and for the business of practitioners than for students approaching the Elements of Criminal Law for the first time. Mr. Nelson's clearness of exposition, brevity of style, and analytical mastery of the subject which enabled him to present the most abstruse propositions of Law in an intelligible form appealed very strongly to the increasing mass of our Law students and practitioners and it is a recognition of these excellent features of his book which induced the Universities of Madras and Punjab to prescribe his book as the Text-book for their Law examinations. The above good features are more in prominence in the Edition before us and his treatment of the chapter on General Exceptions shows that Mr. Nelson wishes his book to be studied in the light of the truth which is gaining ground everywhere that Law ought to be studied not as a practitioner's art but as a science of legal principles, the various parts of which are linked together into a harmonious whole. The printing and get-up of the book is all that is desirable and the fact that in spite of the increasing bulk of the book, it is moderately priced, should enable every busy practitioner to have a copy of it.

A MANUAL OF TRANSLATION, (RECIPROCAL TRANSLATION SERIES: ENGLISH—TELUGU.)

A copy of this book has been sent to us by the author, Mr. Ch. V. Jogarao, Assistant Master, Maharajah's College, Vizianagaram, and we owe a word of apology for the delay in reviewing the same in these columns. The author is of opinion that "English is a necessity to the Indians" and that "English now combines in itself two noble purposes—one to furnish a common vehicle of thought to a nation hitherto separated by diverse languages, and the other to open up the treasures of useful knowledge and bring us into contact with the greatest authors of all civilised races, the study of whose works greatly tends to train our intellect, ennoble our hearts and enrich our mind." With this assumption and "finding on natural lines that translation is the only method available for the Indian student learning at

school" this book is published. The Introduction written in English and covering nearly 32 pages explains full well the necessity of translation and the scientific aspect and practical side of its method. The book is well written in elegant style and though "it is meant primarily for the lower forms, the Appendices furnish useful material for students of the higher forms as well." "The various lessons and exercises are distributed and arranged according to their graduated difficulty. Care is also taken to avoid as far as possible grammatical technicalities; and just as much of its terminology is introduced as is absolutely necessary and can be easily understood;" and "one important feature of this book is that it gives two sets of exercises under each lesson—one for translation from English into the vernacular and the other *vice versa*. The former tends to enable children to understand the English portions by an application of the principle learnt in the lesson; while the latter drills children in making English sentences of their own." We commend this book to the student population whose vernacular is Telugu. The book is priced at Re. 1 and can be had of the author.

Indian Educational Notes.

MADRAS.

The Government are pleased to sanction the payment to the District Board of Tinnevely of a grant of Rs. 5,000 towards the cost of purchasing a building for the Technical Institute. This sum will be met from the balance of Rs. 66,530 available under the head "Contributions from Provincial to Local."

The Director of Public Instruction will be requested to bring the curriculum of the Board Technical Institute under review in order to see whether it requires revision so as to secure that the instruction is given on proper technical lines and that a suitable educational test is prescribed as a condition of admission.

The following will be substituted for Rule 35 of the rules regulating the constitution and working of the Law College issued under G.O., No. 483, Educational, dated 15th August 1902:—

"33. The College shall be closed for the midsummer vacation for a period of nine weeks and for a month at Christmas, the dates of opening and closing of the College being fixed by Government in each case."

Mr. P. F. Fyson, Professor of Biology, Presidency College, special leave on urgent private affairs for three months and twenty-eight days in continuation of the ensuing midsummer vacation of the college.

The Ven'ble Henry Barry Hyde, M.A., A.K.C., has resigned his office as Fellow of the Madras University.

Mr. M. Singaravelu Mudaliyar, Assistant Inspector of Schools, South Arcot—Trichinopoly division, privilege leave for three months, with effect from the 15th March 1908.

Mr. T. S. Muhammad Hossain Sahib, B.A., Sub-Assistant Inspector of Schools, acting in the Madras Muhammadan Range, to act as Assistant Inspector of Schools, South Arcot—Trichinopoly division, during the absence of Mr. M. Singaravelu Mudaliyar, on leave or until further orders. To act in the ninth grade of the Provincial Educational Service.

PAPATTA Narasimham and V.R. Sangameswara Sastri are declared to have passed the Upper Secondary Examination.

At the last meeting of the Muhammadan Educational Association of Southern India, held on the 4th instant, the Association resolved to acknowledge with thanks the receipt of Rs. 100 from Sir Currimbhoy Ibrahim of Bombay, Rs. 60 from the Hon'ble Mr. G. Stokes and Rs. 20 from the Hon'ble Sir Ralph Benson towards the Scholarship Fund. The Association has received from the Hon'ble Mr. Justice Boddam Rs. 240 for M. M. and C. M. Scholarship for 1908-9.

Under the auspices of the Service Corps, a public meeting was held recently in the Anjuman premises to enlist the active sympathy and co-operation of young Mussalmans on behalf of the Provincial Muslim Educational Conference, to be held in Madras, in the first week of April next.

Over a hundred and fifty young men mostly consisting of students from the different schools and colleges in the city, were present.

Mr. Ghulam Ahmad of Kolar Gold Fields occupied the chair. Messrs. Khadir Husain Khan, B.A., Muhammad Humayun, B.A., and Muhammad Ibrahim Qaraishee, B.A., L.T., spoke in English exhorting the young men assembled to come forward to assist the working Committee of the Conference in holding the forthcoming sittings, as their predecessors had done when the M.A.O.E. Conference and the Nadvat-ul-Ulama held their sittings in Madras.

Munshi Syed Shah Muhammad Fakhruddin Saheb Fakhri, Munshi Syed Ali Muhammad Saheb Zakir, and Mr. Ghulam Musa Raza Muntarum spoke to the same effect in Urdu.

About fifty young men offered their services to the Committee and took charge of receipt books to collect money for the Conference.

Mr. Ghulam Ahmed in the course of an eloquent speech in Urdu offered to defray the expenses connected with the gold and silver medals which the Service Corps has proposed to institute in the name of the Hon'ble Mr. Justice Boddam, to be awarded to the young men who do the largest amount of practical work in connection with the Conference.

For his own part he said, he would feel most satisfied only if he devoted all his time to do something practical, to promote the national welfare, and die working on this behalf, as if he was still quite young man like them.

After the usual vote of thanks the meeting was dissolved.

The Annual Convocation for the purpose of conferring degrees was held in the Senate Hall on the 19th inst. The Chancellor, Vice-Chancellor and Fellows were assembling in the old Senate Room till 4-30 p.m. When all had taken their seats, the reports of the Examiners were taken as read and the graces of the Senate on behalf of the candidates for admission to the degrees of Law, Medicine, Engineering and Arts were supplicated by the Presidents of the respective Faculties and passed. Then the Chancellor, Vice-Chancellor and Fellows proceeded in procession through the central hall to the dais at the southern end of the hall in the following order:—The Registrar, Fellows two and two, members of the Syndicate and Presidents of Faculties two and two, the Vice-Chancellor and the Chancellor. The band was playing a March during the procession and the candidates with their gowns and hoods on, rose on the procession entering the hall and remained standing until the Chancellor, Vice-Chancellor and Fellows had taken their seats on the dais. Then the Chancellor, H. E. The Governor, after explaining the purpose of the Convocation took the candidates' usual promise and declaration for preservation of good conduct in daily life and conversation, for promotion of morality and sound learning, for the advancement

after mentioned, beginning, as far as the compulsory subjects are concerned, on the

It shall be held at such places as may, from time to time, be notified.

2. *Objects for which instituted.* The Examination has been instituted to test the attainments of pupils at the close of a secondary school course.

3. *By whom to be conducted.*—The examination shall be under the control of an Examination Board consisting of the Director of Public Instruction as President, four officers of the Indian Educational Service and three members appointed thereto by the Syndicate of the University of Madras.

The members of the Board shall be appointed for a period of three years and shall be eligible for re-appointment.

The Secretary to the Commissioner for Government Examinations shall be Secretary to the Board.

The Board shall arrange for the conduct of the examination in accordance with the provisions of this notification.

4. *To whom open.*—The examination shall be open to pupils who have completed a course of instruction in a secondary school provided—

(i) that the pupil shall have completed the age of 15 years on or before the first day of the month in which he appears at the examination;

(ii) that the pupil shall have been in one and the same school during the school year immediately preceding the examination and shall have been a pupil of a recognised school for a minimum period of two years;

(iii) that the school or schools attended by the pupil throughout the course of instruction shall have been recognised by the Director of Public Instruction as providing an efficient course of instruction in the subjects selected by the pupil;

(iv) that the pupil produces a certificate in the subjoined form signed by the headmaster of the school he is attending at the date of applying for admission to the examination:—

I hereby certify that.....has attended.....not less than 120 days of the previous school year, that he has completed a course of instruction in the following subjects.....and that his conduct has been satisfactory.

5. *Private candidates.*—Candidates who have not attended any recognised school during the period specified above in Rule 4 will be admitted to the examination only under exceptional circumstances, such as physical inability to attend school or other causes sufficiently proved in the opinion of the Board to excuse non-attendance. The Board will decide all such exceptional cases on application specially made to it. Such application must contain a full statement of the case and must be submitted so as to reach the Board on or before the.....of the year in which the examination is held, accompanied by a satisfactory certificate of good conduct and the prescribed fee which will be returned if the application is rejected.

6 *Subjects of examination.*—The following will be the subjects for the examination:—

Compulsory.

1. Arithmetic.
2. English.
3. The Vernacular.
4. History of India and General Geography of the World.
5. Elementary Physics.

Optional.

Any two of the following subjects:—

1. An additional language.
2. History of England.
3. Chemistry.
4. Mensuration and Practical Geometry.
5. Book-keeping.
6. Commercial Arithmetic, Correspondence, and Geography.
7. Shorthand and Typewriting.
8. Botany.
9. Agriculture.

Female candidates may present Hygiene and Domestic Economy, Botany, Music or Typewriting with or without Shorthand.

Drawing or Manual Training may be added to any of the subjects.

7. *Publication of results.*—The Director of Public Instruction on the recommendation of the Board will publish the results of the examination in the *Fort St. George Gazette*.

OUR ENGLISH LETTER.

BRISTOL, March, 1908.

The Education Bill has come at last. Mr. McKenna launched it upon its dubious course in a speech that was in singular contrast to that which entranced the House two years ago. There was nothing of the literary finish, none of the splendid indiscretions that marked Mr. Birrell's speech. To Mr. McKenna it was a matter of business, and his speech was short and practical. He employed none of the arts of oratory but, showed a useful gift of lucid exposition though here again he fell short of the masterly skill displayed by Mr. Asquith three days later in introducing the Licensing Bill. What is to be the fate of Mr. McKenna's Bill? It is significant that an attempt has been made to weaken the control of the Lords by making the essential clauses of a financial nature. The Lords wrecked Mr. Birrell's Bill, as Mr. Birrell has not yet forgotten, if one may infer anything from covert references that fall from his lips on the public platform. Twice he has been their victim. Mr. McKenna is trying to win a victory over them by avoiding a conflict at all as far as possible. And he regards this as a last attempt at a reconciliation of the ecclesiastical interests involved. 'If we fail once more, if we continue to disagree, we shall have given the most powerful impetus in our generation to the opinion that religious education in the schools is a last cause.' This is an ultimatum. What grounds are there for

hoping that this suggested compromise will find acceptance? We shall see this best from a brief revision of the proposals made in the Bill.

'Down to 1902, and to-day, there are two kinds of public elementary schools—the provided and the non-provided. It is proposed that there shall be but one type of public elementary school, provided by the public, managed by the people, and with the teachers appointed without religious tests.' This is the cardinal principle of the Bill as Mr. McKenna stated it. Only one type of public elementary school, but alongside of these schools there are to be found others—voluntary schools which have availed themselves of the privilege of 'contracting out.' By this means they will retain their old denominational privileges. Tests for teachers and special religious teaching will be open to them. They will be obliged to keep their standard up to that of the public schools. The Board of Education will maintain a strict supervision by means of inspectors—under a Liberal administration at any rate.

Another main feature of the Bill is the increased aid that the Treasury is giving. A new scale of grants is to be adopted which will amount on the average to £2 7s. per child. This will mean an increase of from four to six shillings a child and will entail an additional expenditure from the Exchequer of a million and a half. This will go far to relieve the overburdened local authorities. And inasmuch as the average Briton protests even more loudly against rates than against taxes this fresh grant will be welcome to everyone but the Chancellor of the Exchequer whose battle for economy is proving so severe. Thus the Bill provides for the co-existence of two entirely different types of schools. In single-school districts the school must be a public one, and this gives the Nonconformists what they have so clamorously demanded. But in districts where there is a choice of schools, the interests of the voluntary schools are to be studied. There can no question of the fact that they are hard

His Honor then distributed prizes to the successful competitors at the Inter-collegiate Competitions and for the Wilson Memorial Prize.

At the request of Rai Bahadur Dr. Chunilal Bose, His Honor unveiled the portrait of the late Dr. C.R. Wilson.

His Honor in the course of his remarks paid a tribute to the memory of the late Dr. Wilson. His Honor, in referring to the building of the Institute, announced that in a short time they would have a portion of the Library that was going to be built for the University with the munificent donation of the Maharaja of Darbhanga allotted to the Institute.

His Honor concluded by wishing the Institute heartily a prosperous career.

With the usual vote of thanks to the Chairman, the meeting separated.

Mr. F. Walford, Headmaster, Bihar School of Engineering, is allowed combined leave for six months, under Articles 277 and 337 of the Civil Service Regulations, viz., the School vacation from the 17th April 1908, to the 5th July 1908, and leave on urgent private affairs for the remaining period.

BABU Surendra Kumar Basu, Professor, Civil Engineering College, Sibpur, is appointed to act as Headmaster of the Bihar School of Engineering, during the absence on leave of Mr. F. Walford, or until further orders, with effect from the date on which he takes over charge.

THE second sitting of the annual meeting of the National Council of Education, Bengal, was held recently under the presidency of Mr. Satyendra Nath Tagore, I.C.S. (retired), Vice-President, to consider some items of business which stood over from the last meeting.

The Secretary reported that Maharaj Kumar Kristodas Law of Calcutta had offered, for the promotion of the objects of the Bengal National College and School, the sum of Rs. 4,000 per annum, the donors being Maharaj Kumar Kristodas Law, Maharaj Kumar Reshee Case Law, Babu Chundy Charan Law and Babu Ambica Charan Law. The Council thankfully accepted the munificent offer.

The Secretary placed before the meeting the accounts of 1907 and the statement of assets and liabilities of the Council on 31st December 1907.

The meeting unanimously accepted and passed the accounts and the balance sheet of 1907, and on the motion of Mr. J. Ghosal, seconded by Mr. A. Rasul, adopted in their entirety the recommendations made by the auditors.

The annual report for 1907 was adopted with minor alterations.

The report shows that up to 31st December, 1907 apparatus, tools, machinery, appliances, stores, fittings and furniture, etc., worth over Rs. 39,000 were purchased and ordered. Thus the total expenditure on the head of apparatus, tools,

machinery, appliances, furniture, and fittings for the Technical and Scientific departments amount to about Rs. 67,000. This excludes expenditure under the heads of house-rent and office expenses, estimated at about Rs. 5,500 and Rs. 4,700, respectively for the current year. The report shows that books worth about Rs. 6,000 were purchased up to the 31st December 1907. The total value of the books in the library, on the 31st December 1907, is estimated in the report at Rs. 15,000, this being due to additions to the library through presents and loans of books, with the result that the number of volumes in the library, which was 2,500 on the 31st December, 1906, rose to about 4,000 volumes on the 31st December of the following year. The report shows that during the year 1907 school appliances of the value of Rs. 1,000 were ordered. These include a demonstration lantern with over 400 slides a stereoscope, with about 100 views, biological and geographical charts, terrestrial and astronomical globes, tellurium, selenotrope, arithmometer, etc.

THE Founder's day of the Behar National College was recently celebrated most successfully in the Behar National College premises. The elite of the town, no less than the students, ex-students and Professors of the College took active part in the proceedings. The Hon'le Babu Gajadhar Prasad kindly took the chair. The meeting hall was full to overflowing. Stirring speeches were made by Babus Brahmdeo Narain and Prakas Chandra Roy, retired Deputy Magistrates, Professors Kamakhya Nath Mitra, M.A.B.L., and Parmeswar Prasad, M.A., and Babus Gangowtri Prasad and Akshay Kumar, students of the 4th year and 3rd year classes respectively. After a vote of thanks to the chair from Principal Devendra Nath Sen, M.A., the meeting dispersed.

CENTRAL PROVINCES.

Dr. Edward Balm accompanied by his brother, Mr. Henry Balm, left Bombay for England recently. Mr. E. Balm is the Civil Surgeon of Aurangabad, and is one of the best and most successful surgeons in H.H. the Nizam's Dominions. He is going to Edinburgh to take the degrees of M.D. and D.P.H. Mr. Henry Balm is in the Settlement Department and is going to England to undergo a course of studies in Agriculture.

THE Neill High School and Morris College, Nagpore, had both to be closed owing to the outbreak of plague. It is very pleasant to note that left to themselves students are behaving very properly and the old healthy relations between them and their masters and professors have been fully restored.

THE Government of Bombay are inviting applications for one or two State Technical Scholarships

of £150 per annum for candidates in the Bombay Presidency who are willing to proceed to England to undergo a special course of (1) in the processes of bleaching, dyeing and printing in mills; or (2) in electrical and mechanical engineering. The Chief Commissioner of the Central Provinces also offers similar scholarships for students in those provinces and Berar who may be willing to undergo a special course in mining or textile fabrics in Great Britain, the Continent or America.

PUNJAB.

ON Mr. Woolner, Registrar, Punjab University, taking furlough for 3½ months combined with summer vacation, Professor Brett of the Government College officiates for the first 3½ months while Mr. Priya Nath Dutt, Assistant Registrar, officiates during the rest.

Dr. Abdul Ghani, who went to Kabul two years ago to organise for the Amir the Department of Public Instruction, has sent an application to the Punjab University that the High School Final Certificate Examination (including English) of Afghanistan be recognised as equivalent to the Matriculation examination, and that the Intermediate Arts examination (including English) of the new Habeebulla University at Kabul be accepted in lieu of the Intermediate Arts examination, and similarly on the Science side. The Syndicate of the Punjab University has referred the matter for consideration and report to a special Sub-committee.

THE Syndicate of the Punjab University have decided to frame regulations to enable a student on Science side to appear in Intermediate Art and B.A. Examinations in classical language only, and on obtaining pass marks in that subject to be granted certificate to that effect.

THE question of the separation of the Lahore Medical College and School is again under the consideration of the Government. The matter has been recommended by the authorities of the Medical College, who feel that the measure is necessary in the interest of efficient teaching. The expanding requirements of the College require all the accommodation at present used by both the School and College.

It is stated that the Secretary of State has sanctioned the Ranchi College scheme, but has requested that the undertaking be postponed until the present financial pressure disappears. The object of the scheme is to provide a good residential college for Chota Nagpore for the sons of Zemindars and those able to afford it.

THE Government of India have decided to allot to the Punjab one State Technical Scholarship

annually to enable natives of India to pursue a course of study in Great Britain, or other Western countries in order to qualify them to assist in promoting the improvement of existing native industries, and the development of new industries, wherever this may be possible. The Lieutenant-Governor has selected the Textile Industry, for the study of which the current year's scholarship will be awarded. The value of each scholarship, says the "Civil and Military Gazette," has been fixed at £150 a year, in addition to fees and travelling expenses; but if in any particular case this sum is regarded as insufficient, the Government of India will consider proposals for increasing it. The scholarships are tenable in Great Britain, or the Continent of Europe, or in America, and are payable from the date of the scholar's arrival in the country selected for study. Each scholarship will be held for an average period of two years, which may be increased or reduced in special cases. The scholarships are tenable by persons who are natives of India, within the meaning of Section 6 of Statute 33 Victoria Chapter 3. A competent knowledge of English or of the language of the country selected for study will be expected. No age limit has been fixed, but Government may limit the age in particular cases of good moral character and physical fitness. The selection of candidates will not be determined by examination; Government will be guided by consideration of the candidate's capacity, intelligence, previous training, practical interest in the industry selected, and the assurance that he will devote himself to it on his return to India.

THE Syndicate of the Punjab University have sanctioned the affiliation of the Prince of Wales' College, Jammu, up to the Intermediate Standard, and have requested the Maharajah of Kashmir, who founded the institution in commemoration of their Royal Highnesses' visit, to complete the necessary buildings.

BURMAH.

THE Secretary of State for India has sanctioned a proposal that the scheme in force in other provinces for the grant of extra allowances to officers of the Indian Educational Service should be made applicable to officers of that Service who are serving in Burmah. The allowances referred to are of two kinds: (a) A special allowance of Rs. 100 a month given to officers whose total salary after 15 years' service does not exceed Rs. 1,000 a month. The grant of this allowance, however, will cancel the allowance of the same amount, now drawn by officers of the Indian Educational Service serving in Burmah; (b) Personal allowances to senior officers of the service. One "senior" allowance of Rs. 250-50-500 will be given to the senior Inspector of Schools, and one "junior" allowance of Rs. 200-10-250 to the Inspector who is next in seniority.

MYSORE.

Mr. V. P. Madhava Row, C.I.E., Dewan of Mysore, who visited the S. K. P. D. Ayurvedic College and Hospital recently, wrote as follows in the Visitors' Book:—

At the invitation of Pandit D. Gopala Charlu, I visited the Kanyaka Parameswari Ayurvedic Hospital and College. I was much impressed with the splendid work which the Kanyaka Parameswari Devasthanam Committee and Pandit Gopala Charlu are carrying in reviving the ancient Ayurvedic system of medicine. I hardly expected to see so much neatness, method and accuracy in the dispensing of indigenous drugs in a purely Ayurvedic Dispensary.

The name Kanyaka Parameswari Ayurvedic Hospital and College does not adequately convey to the many sided activities of this institution. In addition to the Dispensary, excellent arrangements have been made for the teaching of the science and practice of Ayurvedic medicine, the preparation of Ayurvedic medicines, the collection and publication of books bearing on Hindu system of medicine and research work in the department of Ayurvedic science. I understand that the management also maintain a farm where indigenous drugs are cultivated both with a view to secure a steady supply of reliable drugs and to familiarise the students with the different herbs and roots mentioned in their books. I could not help admiring the pluck and enterprise of Mr. Gopala Charlu and the Committee in undertaking such a tremendous task and carrying it on so well. The institution deserves the support of every worker in the field of reviving our ancient arts and sciences, especially those who have, for their object the alleviation of human suffering.

Within the limited time at my disposal, I was only able to put a few questions to the boys to see the system of instruction that is being allowed. I questioned them on Physiology and Medicine. I was very much pleased with their answers which were intelligent and showed that the young men had a real grasp of the subject. The use of English terms did not stand in the way of understanding what was taught.

The only desideratum in this well-organized institution appeared to be facilities for dissection, without which knowledge of Anatomy cannot be either complete or accurate.

Instruction is imparted in Sanskrit which is well understood by the students who showed considerable mastery over it.

In conclusion, I heartily congratulate the Kanyaka Parameswari Devasthanam Committee and Mr. Gopala Charlu on the success which has attended their efforts in the revival of Ayurvedic Medical Science and wish them a career of yet greater usefulness.

The distribution of prizes of Government Girls' Schools, Bangalore City, took place recently in

Doddanna's Hall, Bangalore. Her Highness the Maharani, C.I.E., presided on the occasion. As soon as Her Highness arrived, Miss Rajgopal read the report of the Government Schools, in the City. Her Highness distributed the prizes. On behalf of Her Highness the Maharani, the following address was read by Mrs. Carr:—

"It is a great pleasure to me to have been able to give away the prizes this afternoon and to see so many of the students and teachers of the Government Girls' Schools of Bangalore gathered together here. The cause of female education has always been very near my heart, and I welcomed the opportunity of showing my interest in the work of both teachers and students by my presence here to-day. The report of the Lady Superintendent, to which we have listened with much interest, shows that considerable progress has been made in this City in the matter of Girls' Schools, since the Government Girls' School was established in 1869. I gather that there are now over 600 girls on the rolls of the 5 schools represented here, with an average attendance of about 3/4ths of that number. The success achieved up to the present should encourage all concerned to persevere in the work. Too much importance cannot be attached to the proper education of our girls. On the influence of the educated women in the home, depends the proper up-bringing of the children to come, and the mental and moral elevation of the whole community. I learn with the greatest satisfaction the efforts made to promote the cause of educating our poor widows. I rejoice to learn that a number have already been sent out as teachers or equipped with sufficient education to make them useful working members of the community. There is a great field of work for them as teachers not only in Mysore, but throughout Southern India, for the difficulty everywhere is to meet the demand for woman teachers. Work done for the widows has my warmest sympathy, and I look forward to the time when they will be regarded not as objects of pity, but as a special and privileged class devoted and set apart for the promotion of education and all other good works. The need of improved buildings and increased staff is one which, if I am rightly informed, you share with most of the girls' schools in the State. The matter is, I know, engaging the earnest attention of His Highness' Government and I can only hope that all reasonable requirements will be satisfied in course of time. It only remains for me to congratulate the prize-winners and to express the hope to all the students here present, that the lessons that they have learnt at school will help to make them good and wise women, whatever position in life they may be called upon to fill."

The meeting terminated with a vote of thanks to H. H. the Maharani. This is the first time that H. H. the Maharani presided on such occasion and we hope that the silent interest she has long been taking in the education of her sisters in Mysore will hereafter assume an open practical shape.—*The Mysore Herald*.

The Indian Progressive Union, Bangalore, held the 2nd Convocation of all the students of Bangalore in the Doddanna's Hall recently. Mr. Y. Sreenivasa Rao presided on the occasion and delivered a speech full of religious, theosophical as well as practical interest.

TRIVANDRUM.

A GRANT of Rs. 1,500 is just on its way to England for a fresh supply of books for the Public Library, Trivandrum which has 20,000 volumes of every variety of English literature. It is practically a Free Library, as the members who pay an entrance fee of Rs. 10 with a monthly subscription of Rs. 2 are few, other members paying only 8 annas and 4 annas for books, and readers who see the periodicals a week old, are free.

COCHIN.

The Inter-School Sports, the first of their kind in the Cochin State were held at Trichur on the 14th instant. H. H. The Rajah of Cochin and his consort, Mr. R.C.C. Culling Carr, the British Resident, Mr. and Mrs. Banerjee and a large gathering of ladies and gentlemen were present on the occasion. Twenty of the educational institutions had sent in competitors, whose travelling expenses were defrayed by the Durbar and there were twelve events for seniors and juniors and as many as forty-eight prizes. The Band of His Highness the Rajah played a selection of music at intervals.

INDIA (GENERAL.)

The following Indian gentlemen were called to the Bar by their respective Inns recently:

Lincoln's Inn.—Prasanna Kumar Sinha, Mir Ayub Khan; Mirza Agha Zakir Ali; Mohammad Wasim, Magd. Coll. Camb; Abdul Hamid.

Middle Temple.—Jagmohan Nath Chak, B. A., Oxon; Rustom Jivanji Jamshedji Modi, Mian Sami Uddin, Qazi Tajammul Husain, M. R. A. S.; Moung Chit Moung, Sheikh Masih Uddin Ahmad, Sheikh Razi Uddin Ahmad; Maung Pu, B. A., Calcutta University; Surendra Nath Sinha, M. R. A. S.

Gray's Inn.—Rabindranath Datta, B. A., Christ's Coll, Camb; M. A. Calcutta University; Pothireddy Rangaiya Naidu.

PROFESSOR Arthur Schuster, the newly appointed Reader of the Calcutta University, has arrived in India and is visiting the more important observatories and colleges of Southern India before coming to Calcutta to take up his appointment.

MR. Arthur MacGregor, B. A., a graduate of MacMaster University in Toronto, Canada, is ex-

pected to arrive at Allahabad shortly in connection with the Y. M. C. A. work in that centre. After about two months he will take over the work of General Secretary of the Young Men's Christian Association in Allahabad.

The Senatus Academicus of the University of Edinburgh have resolved to confer upon the Maharajah of Jaipur the honorary degree of Doctor of Law at the Graduation Ceremony which takes place on the 10th April. The degree will be conferred in *absentia* as His Highness is unable to leave his State at present.

Foreign Notes.

GREAT BRITAIN AND IRELAND.

PROF. Sadler, writing to the *Times* on Mr. McKenna's speech, acknowledges that the President of the Board of Education justly emphasized the part played by departmental regulations under successive Governments in the building up of secondary education and of the training colleges in connexion with the State. "But," remarks Prof. Sadler, "he did not point out that such changes by regulation have won the permanent approval of the public in so far as they have sought to establish a fair balance between denominational and undenominational effort in English education." After quoting provisions of the new regulations "committing the State, which should be impartial, to a one-sided view of what is educationally good for the nation," Prof. Sadler writes:

"The point which I would respectfully submit to the consideration of the Government is that English education is the better for combining denominational and undenominational elements in its structure. Each element makes its contribution to the welfare of our educational life. Each gives to it something that the nation needs. Is it not desirable, therefore, that the State should recognize the value of both kinds of effort? Should not the State help each to attain a high level of excellence in teaching and hygiene? And is not the true moral of the chapters in our educational history to which Mr. McKenna referred, that the administrative action of the Board of Education is most acceptable to the country when it endeavours to foster, among the friends of denominational and of undenominational schools alike, a desire for unity of effort in the public interest—a unity which is not the less real and fruitful because it expresses itself in different forms of educational method and of spiritual appeal?"

The worst of it is that, so long as a well-grounded sense of unfairness exists, energies that should go to "unity of effort in the public interest" are only too likely to be wasted in internecine conflict.—*Educational Times*.

THE Normal Correspondence College continues to be remarkably successful in the results obtained by its students. In the recent Preliminary Certificate Examination (Part I), at one place where eight candidates sat, three only were successful, and the whole of these were pupils of the college.

THE Council of the Bedford College for Women have appointed Miss E. N. Thomas, B.Sc. Lond., assistant in the Department of Botany, University College, to be lecturer and head of the Department of Botany in the college. Miss Thomas will take up her duties at the beginning of the Easter term.

THE governing body of the Imperial College of Science and Technology have appointed as Secretary Mr. Alexander Gow, B.Sc., M.A., formerly Scholar of Gonville and Caius College, Cambridge, who has for the last four years occupied the position of Director of Education and Principal of the Technical School, Blackburn.

At the annual prize-giving of the Francis Holland School for Girls, at Eaton Square recently, Miss Wolseley-Lewis read an interesting report of the work of the school, comparing it with similar efforts in America, and the Bishop of London, after distributing the prizes, in addressing the children said that they ought to be proud of the sound Christian teaching which they received at the Holland School. It was a passing madness on the part of certain people to imagine that secular teaching could go on without the aid of the Christian faith—a madness so passing that he felt sure it would soon cease.

A SERIES of examinations in hygiene has been promoted and organized by the Incorporated Institute of Hygiene of London (34, Devonshire Street, Harley Street, W.), which should stimulate the acquisition of knowledge in regard to those important subjects which affect the health and well-being of the people and which may be expected also to have most beneficial and far-reaching results on the physical fitness of the race. These examinations will be held at the leading centres throughout England, Scotland, and Ireland, and are of special interest to ladies, as they will include not only the necessary examinations showing general proficiency in hygiene, but the following additional Honours subjects:—The Hygiene of the Home, The Hygiene of Motherhood, The Feeding and Rearing of Children, Food and Cooking, Home Nursing and First Aid, School Hygiene, Physical Training. An examining board, composed of some of the leading physicians and scientists throughout the country, has been formed to further this branch of the educational work of the Institute of Hygiene, and every assistance and encouragement will be given to candidates—who may carry on their studies at

school, college, or at home—while they will receive the Certificate of the Institute for proficiency in elementary knowledge and the Diploma of the Institute for proficiency in advanced knowledge, should they pass the examination successfully.

THE Annual Report of the Oxford University Extension Delegacy states that during the past session 1,276 lectures, distributed in 178 courses, had been delivered by 40 lecturers at 138 centres; 22,421 students were in regular attendance at the lectures, and 6,900 students at the classes held in connexion with the lectures; 824 candidates entered for examination, of whom 774 passed, 281 with distinction. These figures show little variation from those of recent years. Fifty-one students' associations were at work and 360 meetings were held. The summer meeting this year will be at Cambridge, and the delegates propose to arrange a meeting at Oxford in 1909.

OVER eight hundred ladies qualified by passing degree examinations at Oxford and Cambridge have graduated at Trinity College, Dublin, within the last few years, and they have paid something like £16,000 in fees for the privilege. The College authorities, with a due sense of the fitness of things, have resolved to spend this money solely for the benefit of their own women students.

DR R. Stewart McDougall to be Lecturer in Botany in Edinburgh University.

IN the University of Sheffield: Mr. J. D. Annan, M.B., Ch.B., Edinburgh, to be Demonstrator in Anatomy; and Messrs. M. H. Phillips, M.B., B.S., Lond., Graham Simpson, F.R.C.S., and A. E. Birnes, M.B., Lond., to be Clinical Tutors.

MR. E. J. Broadfield to be Treasurer of Manchester University.

IN the University of Leeds: Mr. P. N. Ure, M.A., to be Assistant Lecturer in Classics; Mr. Andrew Hunter, M.B., to be Demonstrator in Physiology; Dr. W. G. Smith to be Lecturer in Agricultural Botany; Mr. A. S. Galt to be Lecturer in Horticulture; and Dr. Croft to be Lecturer in Gynaecology.

Mrs. John Rylands, Longford Hall, near Manchester, has left £50,000 to Victoria University, £25,000 to Owens College, £10,000 to Mansfield College, £8,000 to Hackney College, and £5,000 to the Baptist College, Regent's Park, London.

THE London Inter-Collegiate Scholarships Board will hold a combined examination for 20 scholarships and exhibitions, tenable at University College, King's College, and the East London College, on May 12 and following days. Candidates must have passed the London Matriculation (or an equivalent) Examination and be under nineteen on October 1, 1908. The total value of the scholarships exceeds £1,700. Full particulars and forms of entry from the Secretary of the Board (Mr. Alfred E. G. Attoe), University College, W.C.

A DARWIN celebration is proposed at Cambridge in June of next year, to commemorate at once the hundredth anniversary of the savant's birth and the fiftieth of the publication of the *Origin of Species*. Representatives of other Universities and learned bodies will be invited to participate in the jubilation.

MR. Keir-Hardie will stand as a Socialist candidate for the Lord Rectorship of Glasgow University against the Premier and Lord Curzon.

BIRMINGHAM University wants more money, and apparently more students too. At the eight annual meeting of the Governors last month the former want was loudly expressed, the latter was left to be inferred. The financial difficulty is temporary, and caused by the enormous outlay on bricks and mortar, and will no doubt be met by local patriotism combined with a proposed increase in the students' fees.

FRANCE.

THE French Ministry of Public Instruction have recently decided that for the future the sum of £16, previously payable by English *répétiteurs* in French *écoles normales*, shall no longer be

demanded. English *répétiteurs* in these institutions will henceforward be appointed *au pair*.

FOR the French *baccalauréat* Latin was until recently a compulsory subject: both Greek and Latin are now optional. As a consequence, in the July session at the University of Paris, of 12,549 candidates presenting themselves for examination, only 8,801 offered Latin and only 3,105 Greek.

AMERICA.

THE College of the City of New York on Washington Heights, which has been under erection since 1903, is (says the *Sphere*) almost ready for occupation. Indeed, some portions of the five great buildings, which have cost from first to last something like £1,600,000 sterling, have been in use more than two years. The institution is sixty years old and began in what was formerly known as the old Free Academy. It is built of gneiss, brightened by white terra-cotta for the decorative details. All the five portions of the group are connected by wide and airy underground passages through which students (of which the college can accommodate four thousand) may pass in stormy weather. The central hall—90 ft. high, 90 ft. wide, and 180 ft. long—is likely to be one of the show places of New York, for it will be used not only as a chapel and place of assembly for the institution, but also as a place for great municipal functions. The great stained glass windows, into which are set the seals of all the important colleges of the United States, reach almost to the roof. It will give some indication of the size of the place when it is stated that the chemistry building has twelve laboratories for general work alone, besides many smaller ones for special work. It is proposed later on to increase the usefulness of the college by establishing night classes.

A Voyage to Lilliput.

GULLIVER'S TRAVELS: SWIFT.

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The Educational Review.

From an examination of the statistics for the last fifteen years it would appear that we must make one or more of the following inferences: (1) The standard of the Matriculation examination as an entrance examination is inordinately high. (2) The question papers set are steadily becoming more and more difficult. (3) The examiners are rating the answer books submitted to them by the candidates with steadily increasing severity. (4) As the number of candidates examined increases, the quality of the average candidate's preparation is steadily deteriorating. One often wonders why so many candidates, selected by painstaking and respectable headmasters and superintendents of schools, should fail in the examination of the University. The reason is not far to seek. The marks for the Matriculation examination average always lower than those for the School Selection Examinations, as the answer-books of the University are marked upon a less elastic scale. The examiners in the school examinations are inclined to make allowances which are dictated largely by individual judgment and by thorough knowledge of the standard attained by the pupils of a single school. In examining the answer-books of the University candidates the examiners do not feel at liberty to exercise individual judgment, when the result of their marking affects pupils and teachers with whom they have no acquaintance. A tendency, often noticed in the case of the younger and less experienced examiners, is a sort of competitive effort to exhibit ideals at least as high as those of any other examiner. For such examiners it is almost impossible to

adopt a wise or just standard. Further, in the Matriculation examination in which a number of men merely perform the function of readers, undue importance is attached, with a view to secure uniformity, to things that have little bearing on the candidate's intelligence or his preparedness to enter upon a college course.

The Convocation Address of His Excellency Sir Cowasji Jehangir's benefaction. the Governor of Bombay has begun to bear splendid fruit. To place the teach-

ing of science in the presidency of Bombay on a modern footing Sir George Clarke made an earnest appeal for funds. "A beneficent patron of learning," said His Excellency, "could render no better aid to the advancement of science than by providing the University with first class chemical and physical laboratories." Sir Cowasji Jehangir has responded to this ardent appeal by placing at His Excellency's disposal a sum of four lakhs of rupees for the erection and equipment of science laboratories in Bombay. Nothing can better befit the Indians to play their part in the industrial and commercial struggle now in evidence all over the world than the diffusion of scientific knowledge. For this work large laboratories are absolutely necessary, though they may not be an unmixed blessing. More than laboratories are the men directing them. The whole advance of science, as was pointed by Prof. A. Schuster in his inaugural lecture in connection with his readership in the Calcutta University, is the result of the personal influence of the professor on the students. Whatever may be the future results of Sir Cowasji's splendid benefaction, he deserves the thanks of all India for providing the means for placing science teaching in the sister presidency on a worthy basis.

The spirit in which a teacher ought to address himself to his task is summed up as follows by Prof. Keatinge of Oxford in his recently published *Suggestion in Education*: "More than all other professional men he must be mindful of responsibility. If suggestion is indeed a force in education, if the passing remark of a gifted teacher may set in motion a train of ideas that ever grows from within until ultimately it forms a dominating system and a constant guide of conduct, the school-master's craft demands from those who enter upon it continual watchfulness and continual self-control, and needs as inspiration a single-hearted devotion to the young." We have been put in mind of these words by the attitude of Principal James of the Presidency College of Calcutta towards some M.A. students, who made a legitimate complaint against the insolent conduct of a college servant towards them. We should have paid no attention to this petty matter, had Principal James merely declined to interfere. But, instead of sympathising with his students and correcting them if they were wrong, he went out of his way by insinuating that he was well pleased with the treatment they had received at the hands of a servant. What a train of ideas should this insinuation by one in the responsible position of the principal of a first grade college have set in motion in the minds of the students? We doubt if Principal James has any acquaintance with the psychological principles underlying education. When English professors behave towards their Indian students in this insolent manner, no wonder that the gulf between the Englishman and the Indian is day by day widening. We are sufficiently charitable to think that men of the type of Principal James

are rare at least among the English professors in the colleges of our part of the country.

The Jubilee Convocation of the Calcutta University took place on the 14th instant. Honorary degrees were conferred upon some eminent Europeans and Indians. The address of the Viceroy as Chancellor of the University was a short study of the introduction, growth and achievements of Western education in India, coupled with some reflections upon the probable future of University education in India. Lord Minto bestowed high praise on the Maharajah of Darbhanga for his munificent gift to the University Library, and on Dr. Ashutosh Mookerjee for his tact and ability in managing the affairs of the University in the present turning point of its history and the patriotic zeal with which he is working for the promotion of higher education among his countrymen. In his speech as Vice-Chancellor, Dr. Ashutosh Mookerjee dwelt on the various aspects of University activities and the practical realization of the New University Regulations, and concluded with the following advice to students:

"Students of this University, allow not the pursuit of your studies to be disturbed by extra academic elements. Forget not that the moral task of the student, so long as he is a student, is not to make politics nor to be conspicuous in political life. Take it as my deepest conviction that practical politics is business of men, not of boys. You have not that prudent firmness, that ripe experience, that soundness of judgment in human affairs which is essential in politics and will be attained by you only in the battle of life, in professions, and in responsible positions. Train yourselves, if you please in political

economy, political philosophy, jurisprudence and constitutional law. Acquire an intelligent comprehension of the lessons of history, but delude not yourselves in your youthful enthusiasm that the complex machinery by which a state is governed may be usefully criticised and discussed without adequate training and laborious preparation. Remember, further, that if you affiliate yourselves with a party you deprive yourselves of that academic freedom which is a prerequisite to self-education and culture. Submit not, I implore you, to intellectual slavery and abandon not your most priceless possession, to test, to doubt, to see everything with your own eyes. Take this as a solemn warning, that you cannot, with impunity and without serious risk to your mental health, allow your academic pursuits to be rudely disturbed by shocks of political life. Devote yourself, therefore, to quiet and steady acquisition of physical, intellectual and moral habits."

This is no doubt sound advice, but we are tempted to ask if it contains the whole truth. Is it not the aim of every genuine and right system of education to cultivate the civic sense? Is it not the duty of the school and the college to foster patriotism, to inspire a love of liberty, and to create in the rising youth a deep interest and concern for the well-being and greatness of their motherland? Has education one purpose and meaning in England and the opposite in India? Why then does the Government of India endeavour to suppress the independence and self-assertion of Indian youth by "Risley" circulars?

We are glad to note that in commemoration of the Jubilee and with a view to further the growth of home-industries the Government have promised an annual grant of Rs. 10,000

towards the establishment of a chair of Economic Science in connection with the Calcutta University.

The psychology of childhood as related to reading and the public library was the subject of a recent lecture by Dr. Stanley Hall, a well-known authority on pedagogical questions. Dr. Hall regards as one of the most significant of modern culture movements the invasion of the schools by the libraries and the making of libraries attractive to the children, when they ought to be out of doors. He deprecates the time spent by children in libraries because of the physical injury resulting from the long-continued bad postures usually assumed by the young readers and the strain upon the muscles of the eyes with the repeated lateral movements, at the important, crucial stages of development. Dr. Hall considers as a sad phenomenon the mania for reading, which often seizes children when they ought to be learning in the more vital way offered by experience and conversation. "The book goes between the child and life," when there is over much reading and book learning in childhood. It has been proved that the child who does not go to school till seven is further along at fourteen, and he who goes at eight is still further along at fourteen. A statement of this kind from such a high authority as Dr. Stanley Hall ought to set all educationists thinking. In connection with library work Dr. Hall approves of story-telling. Among the books especially needed he suggests a series of books on wild animals, which will give in a complete and interesting way the actual facts in the lives of animals, their habits, their development from infancy to maturity, their traits of character, their

behaviour in cases of danger, of sickness, etc., their relations to other forms of life past and present, etc.

In many European countries, the salaries of teachers are so regulated by law that it has become a settled policy to lay down minimum salary schedules. In Germany and France, which take the lead in all educational matters, the salaries of teachers are placed on a stable basis, and limits are set below which no amount of false economy may reduce them. In several of the United States of America Acts, known as minimum salary laws, were recently passed for the purpose of regulating the minimum salaries of public school teachers. We in India are very backward in these matters. Indian teachers are entirely at the mercy of the managers of their schools, who may send them off at any time without assigning reasons. Their salaries are very low; at best they cover the barest necessities of life. In convocation addresses and gubernatorial speeches, teachers are told that theirs is a glorious profession and that the future of the country is virtually in their hands. Practically, no effort is made to elevate the status of the teacher, and encourage the influx of sturdy manhood into the profession. The average Indian teacher is a drudge who has to kowtow to managers, or members of district boards, or inspectors of schools. If Indian teachers were respected as they should be, would it be possible for persons, who may never have set their feet in a school to pit their opinions against trained teachers? Opinions seem to carry weight in proportion to the opulence of their advocates, whatever may be their intrinsic worth. We earnestly desire that Indian teachers will make a strenuous

and united effort for the establishment of a minimum scale of salaries, leaving it to managers to pay such higher local salaries as they may choose or be able, in order to secure the services of superior men.

This year's Convocation of the University of Madras was held on the 19th instant. A noteworthy feature was the conferring of the honorary degree of Doctor of Laws upon Sir S. Subramania Iyer, one of the former Vice-Chancellors of the University. The exhortatory address to the new graduates was delivered by Justice Sankaran Nair. We are glad to note that this address is entirely free from those truisms and platitudes, in which convocation addresses generally abound. The address was in every respect academical and worthy of the occasion. Its main thesis was what young India should do to elevate their motherland in the scale of nations. Rightly did Justice Sankaran Nair point out that social disunion has kept the Hindus back and that it would necessarily keep them, so long as they persisted in it, from attaining their proper place among the nations of the world. Caste has made the Hindus slaves of the foreigner and lose all power of initiative. To those who urge that religious instruction is an essential factor in education the address has also something to say. "It is not enough to preach the fatherhood of God and the brotherhood of man, to preach the universality of the soul, to insist on the unity of everything in Brahman, but it will be more to the purpose to carry tithe of these professions into the region of every day practice." "An ounce of practice is worth many tons of precept. This is the view we have often urged. No religious instruction will be effectual, which does not evoke the natural moral responsive-

ness of the child. But this cannot be effected by the teaching of dogmas and precepts.

In one of the British Association reports a distinction is drawn between the teaching of Science.

Teaching of science for intellectual training and that for the sake of giving information. In his presidential address to the Public Schools Science Masters' Association Prof. Miers, F. R. S., points out that scientific education should consist of both. "I believe," says Prof. Miers, "that one object of the earliest teaching should be to give information, even though it cannot yet be fully intelligible; the inquisitiveness and extraordinary memory power of a child enable him to acquire, while quite young, knowledge which will afford countless illustrations of scientific principles to be used later. Let me add that I think it should be also an object of early scientific education to stimulate the imagination and the love of reading, which are very easily utilised in young children and are too much overlooked by many modern teachers. Certainly I can well remember that it was the fascination of physical geography acquired through books that first really made me care for science and desire to go to experimental work. My suggestion is, therefore, that observational work should come very early in the teaching of a child, just as it came before experiment in the history of science, that it should deal with the common objects and events of ordinary life, and that it should be taught with the express object of imparting information that will be of use in the practical teaching of experimental science that is to come next."

At this year's Pestalozzi Anniversary at Zurich, Dr. G. Kerschensteiner, who has, by his re-organisation of the Munich schools, achieved a success recognised throughout Germany as one of national importance, delivered an address on "The school of the future, a workshop school." Like Prof. Dewey of Chicago University Dr. Kerschensteiner is of opinion that our schools are too much adapted to the purpose of listening. Their methods are passive and do no justice to the activity and creative powers of the child. While the school, as at present constituted and planned, develops a sense of punctuality, of orderliness, of perseverance and self-control, it entirely destroys certain good traits of character which the child possesses on entering the school career, such as the courage of independence, self-assertion and enterprise, boldness to attack the strange and unknown, and the desire to work for oneself. If we are to do justice to the child and at the same time to the curriculum, that is, to the body of experience already in the possession of the race and awaiting the child's attention, our schools, which are more or less *learnschools* must be changed into *workschools*, into manual training schools. The aim of these schools will be neither to put literary pursuits at a discount nor to provide for a future supply of artisans, but to produce citizens who will understand the dignity of labour, devote themselves to each other's service and appreciate the blessings of national unity. In the school kitchen, the music school, the drawing school, the workshop, the laboratory, the children will work together, help one another, and enjoy the rapture of common success. As the memory is not everything in these schools,

more importance will attach to the method of the work than the product. We wish those who have at heart the regeneration of India will acquaint themselves with the work of Dr. Kerschensteiner.

The first meeting of the Council of the Tata Research Institute, held at Bangalore on the 24th instant, Dr. Morris Travers, the Director of the Institute, outlined in a long minute his plans for the work of the Institute. At the commencement six sections will be maintained, each with one professor and altogether four or more assistant professors. Dr. Travers will occupy the chair of general and physical chemistry, Mr. Norman S. Rudolf, M.Sc., F. I. C., has been appointed professor of applied chemistry, and Dr. Alfred Hay, M. I. E. E., will be professor of electrical technology. It is under consideration to appoint two professors, one for organic chemistry and another for bacteriological chemistry. Dr. Travers lays down that the

professors and assistant professors must, for some time to come, be Europeans. We do not understand the justice of this restriction. Even now among Indians there are men who are as qualified for the professorships as Dr. Travers himself or the other Europeans who have been appointed. It is not impossible to find among the science-graduates of Indian Universities men who possess a working acquaintance with French and German and who have already proved their capacity for research by their contributions to European scientific periodicals.

We note with regret the death at Berlin of Dr. Gustav Oppert, who was for many years the professor of Sanskrit at the Presidency College of Madras. The German professor was well-known not only through his valuable contributions to Sanskrit scholarship but also through his admirable qualities of heart, by which he endeared himself to his students.

The Elements of Algebra

(WITH A CHAPTER ON GRAPHS).

For use in High Schools,

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WITH A PREFACE

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THE MODERN TENDENCIES IN
ELEMENTARY MATHEMATICAL
INSTRUCTION.

THE so-called Modern tendencies in the teaching of Elementary Mathematics, a brief sketch of which is the object of this article, will be found, on a careful examination, to be chiefly an outcome of the application of psychology to the teaching of Mathematics. A psychologist, for instance, will find nothing new or strange in these tendencies but will be surprised to find that these were not appreciated and adopted much earlier. But, though in England the agitation for the improved methods was going on for nearly half a century, and psychology as applied to teaching was being taught in the training schools for even a longer period, yet it was only very recently that these were generally approved and began to be adopted in the class-room. The reason for this is not far to seek. For, it is one thing to discover or accept a theory and another to put it into practical use, and in general a long time will have to lapse between the acceptance of a theory and the practical application of the same. Psychology may tell us that in teaching we must proceed from the simple to the complex, from the concrete to the abstract, &c., &c.; but it must take a long time and a good deal of thinking before the de-

tailed methods of presenting to the pupils the various parts of a subject are worked out in conformity with psychological injunctions.

Now in India these modern methods are being actively advocated, thanks to the University and the Departmental authorities. The University has drawn up its curriculum in accordance with these tendencies; Mathematical lectures were instituted at various centres to spread the new ideas; and the Educational Department has in 'The Hints and Suggestions to Secondary School Teachers' given elaborate instructions for teaching the various subjects of Elementary Mathematics. Yet, I am afraid, a good deal of writing and talking may be found necessary before every teacher gets soaked in the new ideas and begins to adopt the new methods.

The most important of the modern tendencies and the one which is universally accepted is that the presentation of the different parts of a subject should take a more careful account of the pupil's mental powers, or in other words it should be psychological and not merely logical, and that the intuitional, the inductive and the concrete should be given a prominent place in the school-room. For instance, in teaching the four simple rules in Arithmetic, it is quite logical to teach every thing about multiplication—its theory, multiplication by factors,

long multiplication, contracted multiplication, &c.—before division is taken up, and yet how absurd would this appear to a psychologist who preaches that the more simple should be taken up first and the interest of the pupils should thus be sustained. Again it is quite logical—and I am afraid that is what may be urged even now by the advocator of Euclid—to begin with the definitions of a point and a line and proceed to a surface and a solid; but a psychologist who says that we should proceed from the concrete to the abstract and that we should take account of the intuition of the child will only laugh at this method of presentation.

Again in teaching the inductive and the analytic method should be adopted in preference to the deductive and the synthetic. The latter method may enable a teacher to stuff the mind of the pupil with a good deal of undigested matter and the receptive faculty may be largely cultivated; but it will not satisfy an enquiring mind nor will it give it power to attack new problems. Whereas, for the inductive method these two essential merits may be claimed and in addition the interest of the pupil will be aroused by it. Thus in Arithmetic and Algebra instead of teaching a rule first and then applying it to particular examples, the pupil should, from simple particular cases, be made to induce the rule. And in Geometry easy and earlier book propositions must be proved as riders by the analytical method.

Further abstract notions and abstract reasoning will be found to be difficult to grasp for young minds and therefore concrete objects, pictures, diagrams and practical measurements must be freely used to help the pupil in acquiring such notions and comprehending such reasoning. For instance, in

trying to give the youngsters the idea of number and in teaching the four simple rules of Arithmetic objects such as small cubes, marbles, seeds, sticks, coins, &c., &c., should be freely used so much so that the children should not know that they are learning Arithmetic but should feel that they are only playing with objects and diagrams. Similarly children must be led to derive the fundamental Geometrical notions such as the line and the angle by making them handle and observe solid forms such as spheres, cubes, cuboids, prisms, &c., &c.

The second in importance of the modern tendencies is that in addition to the disciplinary value of Mathematics, its importance for a clear understanding of nature and its place in the sphere of modern civilization should be brought effectively to the mind of the pupils. In Arithmetic, for instance, the problems set should not merely test the intellectual powers of the pupil but should also have a bearing on his practical life. They should not be mere enigmas appealing only to the intellect but should be such as to show to the pupil that Arithmetic has a practical utility in the everyday life of an individual, so much so that one cannot get on well in life without a knowledge of the same. In short, the practicality of the various branches of Mathematics should as far as possible be brought home to the pupil so as to impress on him that Mathematics is taught in the school not merely for cultivating his powers but also for its practical value in life.

The third of the tendencies is that the amount of complex and merely mechanical work should be greatly diminished. In the old books on Arithmetic may be found questions requiring multiplication and division by very large numbers or by numbers with very

many decimal places, the answers being often carried to a large number of significant figures. Such questions are merely mechanical, they do not train the intellect nor do such questions occur in practical life. Wherever large numbers occur in practical life they are taken only to two or three significant figures. For example, no body cares to know what the population of India is, correct to a unit, but will be quite satisfied if he be told that it is roughly 330 millions. Again no man will ever have any occasion in practical life to simplify complicated and ingeniously constructed vulgar fractions, nor have such fractions any great disciplinary value; for, they are only combinations of simpler elements which the pupils will have already mastered. There are other instances of such unnecessary complex work such as the extraction of the cube root of large numbers, resolution of complicated algebraic expressions, solution of ingeniously manipulated equations, &c., &c.

The fourth of the tendencies is the insistence laid on the correlation of subjects and studies. Such correlation helps the better understanding of the subjects, adds to the knowledge of the pupil and infuses a life and reality into the work. In this connection I am reminded of a funny story. When an Inspector of Schools was conducting an English Prose lesson in one of the classes he went to inspect, the word Rome occurred in the piece and he asked the pupils where Rome was but no answer was forthcoming. He then asked them whose Rome was in their Geography and at once the answer came that it was the capital of Italy. Such instances of ignorance of the relation between the parts of various subjects may be multiplied. It will greatly add to the interest and knowledge of the pupils if questions suggested in the Physical Laboratory be taken up for solution in the

Arithmetic class room. For instance questions bearing on Kinematics, (say, the motion of falling bodies) specific gravity, Boyle's law, expansion by heat, &c., may to the clear understanding of both the subjects be advantageously worked in the Arithmetic class.

Again no artificial distinction between Arithmetic and Algebra is to be recognized at least in the higher stages. Teachers, to avoid the appearance of the use of Algebra in Arithmetic, have often recourse to lengthy expressions and round about methods, where as in reality only algebraical methods are being used. This is what is known as 'dodging' the use of Algebra. This practice should be given up and whenever students can appreciate the use of symbols to secure brevity, they must be encouraged to use such symbols.

Again algebraical illustrations and symbols may be largely used in geometrical teaching. To give one example:—While teaching the proposition (Euclid III. 14) 'that equal chords in a circle are equally distant from the centre and conversely,' what a life and clearness will be given to the exposition, if the equations connoting the length ($2l$) of the chord, its distance (d) from the centre and the radius (r) of the circle be given, viz., $l = \sqrt{r^2 - d^2}$ and $d = \sqrt{r^2 - l^2}$. These equations will clearly show that for a given value of d , whatever be the position of the chord, its length will be constant, and conversely.

Another of the modern tendencies which may be brought under this correlation and which is now being very largely advocated is that graphs and graphical methods should be largely used in Elementary Mathematics. The graph was originally confined to algebraic Geometry and advanced Mathematics, but now its usefulness in Elementary Mathematics

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is being recognized and the following point, among others, may be claimed in its favour.

(1) The graph is a very powerful instrument to clearly exhibit to the student the variation of functions in general, *e.g.*, algebraic expressions, atmospheric pressure as recorded by the barometer, the temperature as recorded by the thermometer, &c., &c. In Algebra, for example, the variation in sign and magnitude of the quadratic expression $ax^2 + bx + c$, for different real values of x , can never be clearly understood by the average boy without the help of the graph. I have seen students who could not understand that in the expression $ax^2 + bx + c$, x can have values other than the roots of the equation $ax^2 + bx + c = 0$. They could not differentiate the expression from the equation. To such students the graph will be of great help.

(2) It is much simpler than abstract reasoning and can be largely employed as illustrations to help the pupil in comprehending such reasoning. For instance the graph will greatly help the student to clearly grasp the distinction between positive and negative quantities.

(3) It can be easily understood and employed even by those who have not studied much of Mathematics. For instance, the graphical extraction of square root and the graphical solutions of questions in heights and distances can be understood and used in practical life by our Karnams and Surveyors who know very little of Mathematics.

(4) Even dull students who may hate Mathematics will take an interest in plotting the graph and studying its character.

(5) Many problems, involving statistics, where only a fairly accurate result is needed, the graphical method will be found to be

simpler and easier than the ordinary rigorous method. And in some cases the graphical solution may be the only one possible.

(6) Again the introduction of graphs in all the subjects will clearly show the essential unity of the different branches of Mathematics. This will help the realization of the truth that it is the diversity of method and not so much the variety of application that is the true secret of the division of Mathematics into its various branches.

There is one other of the modern tendencies which I wish to dwell upon here, *i.e.*, that great stress should be laid on the fundamental principles and the theory of a subject. This is nothing new or modern, but it has been very much neglected in the teaching of Mathematics. Teachers used to hurry through the principles and the theory of a chapter in order to dwell at length on the working of model questions and examples. This might have been largely due to the fault of the examiners who seldom proposed questions on the theory of a subject, the defect being greatly noticeable in Arithmetic and Algebra. Many boys, for example, may know the rule for finding the H. C. F. of two algebraical expressions but few will have understood the rationale of the rule. Now both teachers and examiners are beginning to realize the necessity of giving greater importance to the teaching of the fundamental principles rather than to the solution of complicated or mechanical questions.

These are some of the modern tendencies in the teaching of Elementary Mathematics. I have not exhausted them all but these are, I believe, the most important.

P. V. SESHU AIYAR.

HEADMASTERS, MANAGERS OF HIGH SCHOOLS.

“THE Headmasters are indeed a blessed lot”, say they: thanks to Rule 28 of the *New Education Rules*, which imperatively requires one teacher for every class, exclusive of the headmaster. This has wrought a change on the official character of this magnate: the least part of him is the teacher, the best part is the superintendent or the business manager. This consummation has long been wished for by the headmaster, and has apparently been forced upon the devoted head of the purse-manager by the Inspecting agency not without long and repeated importunities on the part of the discontented race of headmasters. There is no love lost between the headmaster and the manager. The latter is ever a surly, griping race of men that deserves no better than what is now meted out to them at the hands of the Government. “No funds”, “no departmental encouragement”, is ever the manager’s *cant*, his ready formula. Mysterious are the ways of the Government. “For, whosoever hath, to him shall be given, and he shall have more in abundance; but whosoever hath not, from him shall be taken away even that he hath.” Colleges and Mission schools are the favoured children of the Government. They have plenty, and yet more is given them. Other high schools are nowhere in the distribution of grants. Committee schools, and schools under private management especially. And yet the cry is that high school education is poor, and deficient; the system of teaching is in fault; there is but scanty apparatus, meagre library, poor accommodation. Here, if anywhere, is efficiency and improvement required, and the poor manager must make shift, and with no encouragement

from the department save checks, reproofs, and warnings. How is he to conjure up a building, apparatus, and the like? This is the manager’s jeremiad.

But grant him money; will he improve the state of things? Will he cast bread into the mouths of the half-starving teachers? Has he given earnest of what he will do by anything he has done as yet? It is a sorry fact that assistant-masters are low paid: they are a grumbling lot, cheerless and despondent: they are slack in work. They are not philosophers that they are so loudly exhorted to be. They are *men* and have human wants and human longings. Low pay, low work; better pay, better work—is the principle here as everywhere else. In several schools, divisions are multiplying, forms are swelling, income is increasing. Has the manager of such a school done justice by his assistant-masters? Teachers are not commonly to expect an increment in these days, unless there exists an original stipulation to that effect in the appointment order, or unless they can show an order of appointment elsewhere on a higher pay, and they threaten to quit his school, therefore. The manager’s surplus is ever a vanishing quantity; where has vanished all the school fee income? The school-room, the library, the laboratory are all much the same as before except for the ravages of time. There has not been any expenditure on the staff of the establishment. There is not in many schools a clerk. A librarian is a luxury: ‘why should not this teacher or that look to the library business in his leisure hours?’ What has become of the money? Let the manager lay his hand upon his heart and answer. Is it not therefore well done that he has not been entrusted with more money?

But what is the headmaster's work now? Is not he to teach? No: is the headmaster's comfortable construction of Rule 28; and if any keep regular teaching work at all, it is only as a matter of grace and favour. Otherwise, the school fiction is that he is on his legs superintending, or is at his desk doing office work. What is not the headmaster to do now? He is to superintend, direct and instruct teachers, give model lessons, draw up time-tables, curricula, syllabuses; arrange stop-gap work should any teacher be absent, and do what not. He has 'heavy' office work besides. All this to be done by a poor old bald head of a headmaster, who has scratched his head so in sheer embarrassment. He has so much to do that he can do very little, and does far less in reality. Consider his old nerves and the weight of years on his back. All glory to him if things go well; if ill, small blame to him; the younger heads are to blame. This is what he who runs may see:—He comes late by half-an-hour or so;—that is his prerogative, which a wise headmaster will not let go unexercised. He goes about jauntily: then retires into his room; runs over the newspapers with the eye; takes a short nap: raises himself up: signs papers: goes away at 3-30 p. m. or so, somewhat done up. Thanks to Rule 28.

The headmaster now has nothing particular to do: he has everything general to do. What is wanted therefore is an all-round headmaster, who has a smattering of all branches of school knowledge, a sound man of saving common sense. English takes the precedence over all other school subjects, and the English teacher is a trifle more important figure than his colleagues. This has gone on for so long that we hardly get to question it. Being a foreign tongue, English

requires pains and skill to teach: it covers a great part of school time in all its divisions. Science men are wanted for Science, Mathematics men for Mathematics, sometimes History men for History. But English has no specially English-trained men. It is handled by any B. A. It is a pity it is so. So it is urged that Englishmen should be brought in for the efficient teaching of English; and they should be appointed headmasters.

But it should be borne in mind that in the present economy of the school department, it is no light thing to make room for Englishmen, costly as they are primarily; and they are in a way ill-fitted to teach *Indian* boys, whose language difficulties are hard for a born Englishman to comprehend. They are pretty good where they are, in colleges. Should they invade schools too? A European headmaster is a veritable 'vain flourish of luxury.' He is much too good and dear for a high school. We, Indians, don't for a moment pretend to vie with an Englishman in respect of the knowledge of his native tongue; but why should it be denied that we know English too for some good purpose, and for high school purposes we know English enough?

But English is only one subject of the many, though a leading one. Let it be remembered that 'general knowledge' is steadily gaining ground. The cry is Science is poorly taught: Geography is odiously neglected. By the way Geography is not the old despised thing that it was. It has grown into enormous proportions, invading the domain of History and Science. Astounding questions are often asked in the Examination papers,—questions likely to take the layman's breath away. Last year's analysis of the Matric Failure list shows an appalling neglect of Geography and Science. The department has been assiduously exhorting

the introduction of object lessons, and science into all classes. The introduction of graphs has apparently changed the aspect of Mathematics teaching.

An English M. A., though very desirable in the interests of English, is not quite the man to cope with this changed aspect of affairs. It not unfrequently happens that a purely literary scholar betrays a notable ignorance in non-literary and scientific subjects. All things taken together, the Science man shews great fitness for the headmaster's place. For, besides a technical knowledge of his subject, he has in other school subjects too, a knowledge not to be despised. Geography and Mathematics bear close affinity to Science. English may perhaps be his weak point; he may not know Anglo-Saxon, or Elizabethan English; but he may improve his English and get a fair working knowledge of it far more easily than a literature M. A. takes to Science and non-literary subjects. The prudence of the manager should forbid the appointment of purely literary men of the English M. A. stamp, primarily on the score of great expense, secondly in the interests of the several school subjects which require efficient guidance and supervision. Let the Science men have their turn. "Sufficient unto the day is the evil thereof."

M. DEVAN.

THE SCHOOL FINAL EXAMINATION.

IS the new School Final Examination necessary at all? This is almost the first question it occurs to one to ask in connection with this examination, and it is a question which I for one have no hesitation in answering in the negative. The Matriculation Examination is, I maintain, in reality what it always has been, a School Final Examination, and none other, it seems to me, is needed. The School Final Ex-

amination is or will be so framed as to test,—whatever else it may be required to do,—the proficiency attained by pupils, in *general* knowledge at the end of their school course. There can be no question that this is primarily and chiefly the object of the proposed School Final Examination, the true reason and justification for its institution. Now this is precisely the purpose which the University Matriculation Examination serves and has been serving these many years. Where then is the need for the School Final Examination? When the new examination comes into existence, we shall have two examinations of the same nature, held at the same stage in the ordinary school course, and testing the same kind and the same degree of knowledge. If the School Final Examination is in all *essential* respects identical with the Matriculation Examination, as, indeed, it necessarily must be, it is not wanted. I shall be told, perhaps, that the Matriculation Examination very imperfectly answers the purpose of a School Final Examination, and that, in recent years more particularly, its results have been very unsatisfactory. I think I am quite as much alive to the unsatisfactory state of things in connection with the Matriculation Examination as any body else, but I hold that it is not so much the scheme of examination that is defective, as the manner in which the scheme is worked. The remedy is in the hands of the Senate, if that learned body has the power and willingness to apply it. If the Syndicate will continue to appoint as examiners, men who are not in touch with High School work and have no knowledge of what the standard is or ought to be, men with fads or with exaggerated notions of the importance of their own subjects, the results cannot but be disastrous. But this by the way. Admitting for the sake of argument that the scheme of the Matriculation Examination is defective, what reason is there to suppose that the

scheme of the School Final Examination will be freer from defects, or that it will be more wisely conducted? What reason is there to suppose that it will be better, for instance, than the scheme of the existing Upper Secondary Examination which instituted by Government as a School Final Examination about nineteen years ago, with the avowed object of supplanting the Matriculation Examination, has proved such an utter failure. There is nothing like the experience of the past to guide us in all matters, so let us consider for a moment what happened in the case of the Upper Secondary Examination. This examination was shaped on the anvil by a very strong committee composed of the leading educationists of the day, all working under the guidance and inspiration of the late Mr. H. B. Grigg, the then Director of Public Instruction. If Mr. Grigg with all the knowledge and experience at his command, with his enthusiasm and thorough earnestness of purpose, with his untiring zeal and energy, and with the vast influence which he possessed with the Government as a prominent member of the Indian Civil Service, failed to make his examination a success, what grounds are there for hoping that the new examination which will be framed very much on the same lines as the Upper Secondary Examination, will live to enjoy a happier fate? The most strenuous efforts were made to give life and vigour to the Upper Secondary Examination. To bolster it up and to give it a better chance of success, its rival, the Matriculation Examination, was depreciated in value by being removed from the list of tests qualifying for admission to the public service. To attract candidates, the standard of the examination was lowered from time to time, and its fees reduced; but all to no purpose. The examination languished from the very beginning and would long ago have died a natural death but for the support it

has received from Government. The same causes that operated to bring about the failure of the Upper Secondary Examination, will, I venture to think, operate again in the case of the School Final Examination and militate against its success. What these causes are I proceed to notice now briefly:—

First of all, the School Final Examination, is not wanted as I have tried to show, and if it is not wanted, it must succumb to the law of extinction which applies to all things that are not wanted in this world.

Secondly, the School Final Examination will never be able to hold its own against the superior attractions of the Matriculation Examination in spite of the fact that the privilege of admission to Government service, withdrawn from the latter, will be conceded to the former. People have short memories and forget that this very experiment was tried when the Upper Secondary Examination was instituted and that it proved of no avail. Students who have any stuff in them will always prefer the Matriculation Examination for all that it leads up to, and they will be quite right too. And there is this to be considered that although the Matriculation Examination may not give admission to the public service, the F. A. Examination will, and, all things considered, it will be more to the advantage of students to continue their studies up to the F. A. Examination than to content themselves with the School Final Examination. It is safe to predict, therefore, that as in the case of the Upper Secondary Examination, very few candidates will elect to appear for the School Final Examination and that for the most part these will be of very inferior quality. It is safe to predict also that owing to the paucity of qualified candidates for the lower appointments in the public service, the Government will be obliged, after a few years, even as it was obliged once before, to restore

to the Matriculation Examination its ancient privilege of which it is again being so unceremoniously deprived. And here one cannot help noticing a strange want of consistency on the part of Government. It is the besetting sin of our students, we are told, that they make Government service the be-all and the end-all of their existence. We, school-masters, are called upon to do all we can to discourage this pernicious habit, or this evil tendency, or by whatever other name we may choose to call it, but here we find Government dangling before the eyes of the student population of this country the privilege of admission to the public service, as a bait to induce them to take up the Government examination in preference to the University examination.

Thirdly, the one great error in the scheme of the Upper Secondary Examination, which more than anything else, perhaps, has proved fatal to it, is to be repeated in the Final School Examination, and it is bound to wreck the latter examination, just as it has wrecked the former,—I mean the attempt to join together in unholy alliance things which should be kept asunder. The new examination is or ought properly to be a *school* examination, adapted to school requirements and to school subjects, but it is also to be a *service* test, adapted to the requirements of Government and to official purposes. The result must inevitably be, as in the case of the Upper Secondary Examination, a complicated scheme, bristling with difficulties well nigh insurmountable to the ordinary student. The inclusion of such subjects as Hand-writing and Dictation with a separate minimum for each, and the importance attached to Composition and Translation in the Upper Secondary Examination have made it very difficult for

candidates to pass this examination. The percentage of success in the Matriculation Examination is low enough in all conscience; the percentage of success in the Upper Secondary Examination is even very much lower. What will it be in the School Final Examination if in addition to Hand-writing and Dictation and Composition and Translation, we have Indexing and Precis-writing which it is proposed to include among the subjects of examination in the somewhat crude scheme outlined by Government as a basis for discussion. Of a truth, as I said before, students will find it more to their advantage to study for two years longer and pass the F. A. Examination than to waste their time and money in vain attempts to pass impossible examinations of comparatively little value. If for their own special purposes Government require a knowledge of special subjects, the best course is to institute *special* tests in addition to, but separate from, the ordinary *general* tests. This, in fact, is the system that exists at present and that has existed for many years in this Presidency, and no better system can be devised. It seems to be overlooked that there is at present an examination known as the Hand-writing and Dictation Test which is of the nature of a special test, and which all under-graduates are required to pass before they can enter Government service. The requirements of Government, therefore, are already satisfied and do not need to be further provided for. To mix up *special* and *general* subjects, to combine together *special* tests and *general* tests, as the Government propose to do, must make any scheme of the kind unworkable. So also in regard to what are known as technical subjects (Science, Arts and Industries). If it is desirable to encourage the study of these subjects, establish special schools for the purpose and give them liberal support. To make one and the same school a school for general education as well

as a school for technical education would be a fatal mistake.

There are one or two other points that need to be considered. It is proposed to invite the University to accept in part or in full, the School Final Examination in lieu of the Matriculation Examination. There is a charming simplicity about this proposal that provokes a smile. The Senate of the University has never shown itself, perhaps, to be remarkable for any very high degree of wisdom or independence, but it must be a very silly body, indeed, if it listens to the voice of the charmer in this matter. The University is expected to give up its own well-tried examination of many years standing, over which it has complete control and which it can regulate as it likes to suit its own purposes, for an examination conducted by an independent agency, over which it can exercise no control whatever, and which is still in its embryonic stage. If I had the honour of being a member of that august body, the Senate, I would in my place make answer to Government, "Thank you for the very kind offer you make us of your bantling, but before we proceed to adopt it, let us have some assurance that it is healthy and strong and likely to live. We want no sickly offspring of yours on our hands." Besides, there is always such a thing as reciprocity. If the Government want the University to accept the School Final Examination for University purposes, it is nothing but fair that the Government should accept the Matriculation Examination for Government purposes. An arrangement that is entirely one-sided and that allows the Government to benefit at the expense of the University has little to recommend it.

One last point requires to be noticed and that is the practical difficulty that will be felt by managers when the new examination becomes an accomplished fact and they are

required to make provision for the new scheme of studies in their schools, in addition to the existing provision and existing arrangements for the Matriculation Examination. In the Upper Forms, separate sections will probably have to be formed, one preparing for the Matriculation Examination, the other for the School Final Examination, if the latter is made compulsory. These new arrangements cannot but involve some additional expense, and the question is how this additional expense is to be met. Managers of schools are already being driven to their wits' end to find the wherewithal for the continued maintenance of their schools. A new policy and a new system have come into force and are being rigorously worked. Pressed by the University on one side and by the Department on the other, forced to incur additional expenditure without any corresponding increase in the grants they receive, many old and useful institutions find themselves in danger now of being relentlessly crushed out of existence. The burden laid upon managers is, indeed, heavy in these days and hard to be borne. Well may the fervent prayer of many of them be, "From all new schemes and reforms, from all new codes, rules, regulations and fads, Good Lord, deliver us!"

MINTO.

MR. SHARROCK AND "SEDITIONOUS UNREST."

I AM not sure that there are many heads of institutions who will regard with approval the remarks recently made by Mr. Sharrock in his Report on the S. P. G. College at Trichinopoly, read at the annual distribution of prizes. Whatever truth there may be in these remarks, to me it seems that they were most injudicious and entirely out of place in an annual report which should have confined itself to the work done and to the

progress made during the year. No one questions Mr. Sharrock's right to say and think what he likes of his own College, but it is a different matter when he goes out of his way to speak of Colleges in general and to describe them as "nurseries of seditious unrest." For what, after all, is Mr. Sharrock's knowledge and experience of institutions other than those belonging to his own Mission, with which he may from time to time have been connected? Mr. Sharrock, as a Missionary, may have spent the best years of his life in India, but this does not entitle him to speak with authority on a question of this kind. Hundreds of Europeans pass their lives in this country, and yet from want of sympathy with the people, know little of their habits and feelings, and often times do them injustice. I happen to be the Principal of a College which in all its departments contains more than 900 pupils and I certainly would object to my College being described as a nursery of sedition. Such a description would be utterly untrue. That a great change has come over the land, no one will deny; that there is a spirit of "unrest" abroad is unhappily too true; but let us honestly endeavour to trace things to their proper causes and try to estimate their true value and significance. This same spirit of unrest is not confined to India, but is seen to prevail in all parts of the world: it is, in fact, the spirit of the age. You cannot educate a people without developing in them new ideas, and inspiring them with new hopes and aspirations. Do not educate and enlighten the people if you think it is not a wise or a safe thing to do, but if you consider it your duty to impart and to spread education, and if you elect to do so, do not throw up your arms in utter amazement at the results that follow which are only the natural consequences of the course which you chose to take deliberately. Why, the very hostels which

Government and the Educational authorities are trying their best now to establish, are calculated to bring about those very results which are so vehemently denounced, only Government and the authorities cannot or will not see it. Young men in India are, I suppose, like young men all over the world. Enlighten their minds, bring them together and give them opportunities of reading and discussing what takes place in other countries, place before them the loftiest ideals, lecture to them on the preciousness of liberty, hold up to them as examples to be followed the great patriots of all ages, encourage them to be more manly and independent, and what wonder if they learn the lessons so diligently taught, what wonder if their minds become inflamed and they are carried away by their enthusiasm. Unrest there is and must be in our schools and colleges,—better this than a condition of mental stagnation and unquestioning submission,—but whether this unrest can justly be described as "seditious" and wide-spread, and whether it was wise or right and proper on the part of the Principal of a large Missionary College to have given expression to such sentiments on a public occasion, are questions on which there is certain to be a difference of opinion. If this unrest which admittedly exists, is an evil,—and I am not saying that it is not,—let us regard it as a necessary evil, the inevitable result of any enlightened system of education. Its existence is no proof whatever, as some seem to think, that there must be something radically wrong in our present system of education. Unfortunately, it is quite true that this spirit of unrest, worked upon by designing persons outside for their own ends, has manifested itself in some instances in very objectionable forms, but let us not commit the error of ascribing to the many what belongs only to the few, and of exaggerating evils that may not be so wide-spread or so

deep-rooted as some persons would seem to imagine. A spirit of discontent has been called into existence and cannot now be suppressed. It is for those in authority to control, and guide, and regulate it with firmness, it is true, but, let us hope, with patience and wisdom and sympathy also. Disciplinary action is necessary: we can all admit this; but disciplinary action may sometimes be carried too far and be out of all proportion to the evils it is intended to correct. There is already, I am afraid, too much reason to fear that in our schools and colleges, coercive and repressive measures are hastily being resorted to, to a much greater extent than is really necessary. Coercion never made and never will make any one loyal in his little school world or in the wider world outside. It is the fashion of the day, I know, to speak ill of schools in India and represent them as being utterly wanting in discipline. This is not true. I claim to speak with some authority in this matter, and I maintain that, as a rule, Hindu students are perfectly amenable to discipline and, on the whole, are exceedingly easy to manage. A school, like a regiment of soldiers, is very much what the head of it makes it, and if the students of a school or college get out of hand completely, if they become turbulent and unruly and set authority at defiance—well, the fault lies somewhere, but not necessarily with the students. In some quarters, Mr. Sharrock has been commended for his outspokenness. Subject to conditions of time and place, outspokenness is, indeed, an admirable quality, but there are other qualities which deserve to be commended also, old fashioned, perhaps, but still very useful—tact, judgment and discretion, and, above all, a sympathetic disposition which knows how to forbear and make allowances, and which, like charity, is not too ready to find fault.

PRINCIPAL.

RESULTS OF THE MATRICULATION EXAMINATION.

THE recent Matriculation Examination has, in a way, assumed the proportions of an educational problem, and gathered round itself a little literature of its own. Some of the journals came out with their reflections on the "Slaughter of the Innocents," by inhuman examiners who, in their opinion, have out-heroded Herod. A certain measure of public sympathy was enlisted on their behalf as the numerous letters that appeared in the correspondence columns of those journals would indicate. The *Christian College Magazine*, in its criticism of the appropriateness of comment on a case *subjudice*, fought shy of the main point. The importance of the question was however fully attested by the attention it received at the hands of H. E. the Governor in the course of his speeches during his recent tour through the southern districts. Later still, it would appear that the Syndicate appointed a commission to make a full investigation into the causes of the enormous failures. We cannot say whether the commission has begun its work; but surely something good may be expected of it. Those who, by a personal contact with teachers and pupils during a long period, have picked up an acquaintance with their difficulties, may be expected to be able to propose a few remedies for them; and it is the purpose of the writer, a teacher of some experience, to set forth a few of them in the course of the article.

At the outset it is well to notice that the last examination was not the first in which the percentage of the successful candidates was so small. It is now over five years since the tendency seemed to manifest itself on the part of the examining Boards to keep the result at a more or less fixed low percentage. To affirm that the maintenance of the results

at this level is due to dictates of an ulterior policy of restriction of the scope of higher education is to write oneself down an alarmist. Such a view is as ungenerous as it is unnecessary. Even should it be granted for argument's sake that the Syndicate does everything in obedience to a policy, nothing can be gained by slaughter in one examination. Our difficulties are bad enough as they are and we need not make them worse by attaching to the question anything more than mere educational importance.

The smallness of the percentage of passes of late years is due either to defects in the system of education or to the difficulty of adjustment of the standards of teaching and examination or to both. The 'slaughter' is specially seen only from the time when the examiners, in conformity with the changes that have revolutionised methods of teaching in all educational systems of the world, began to raise the standard of the entrance test. The difficulty of adjustment on the part of the teachers to new methods of teaching, added to the already existing defects, has been the cause of the hardship felt by the students. It is the bounden duty of all who are concerned in the increase of the efficiency of secondary education to do what they can to repair present defects.

First we take the University. The University of Madras is only an examining body. The evils that spring out of keeping a University merely an examining agency are minimised to some degree in the colleges but are found in full play in the secondary schools. Pupils are expected to come up to a standard which is set by the University. What are they to do when a new standard is abruptly introduced? It is hence the duty of the University to do on its part all that lies in its power to make the teachers grasp the nature and dimensions of any change sought to be introduced. The question papers must re-

present a uniform standard and before an alteration in the general or particular features of it is made, the teachers must be informed of it and be given facilities for suiting their teaching to it.

It is with reference to this point that the importance of general University lectures by competent professors of colleges is clearly seen. The introduction of new methods should land the teachers in trouble if they are not instructed in them by means of general lectures. If they are, then they will not only do their work well but also maintain a uniform standard in all schools. So far, the University has arranged for lectures only in Mathematics. It may be pointed out that other subjects like history require its care as imperatively as Mathematics. Of Mathematics at least one thing is certain. Those who have not been regularly initiated into the mysteries of figures and numbers are kept off by a pious dread of them; while calculating managers leave history and such subjects to be handled by incompetent and untrained men. Moreover the method of teaching Mathematics is, to one who has aptitude, rather easy to learn; but, with respect to history which is said to be chiefly responsible for the shabbiness of the result, there are now as many methods as there are bad teachers. A course of lectures in history, not to speak of other subjects, by qualified men at important centres will not only reveal to the wondering school-masters the stupendousness of their ignorance but also convince the managers of the folly of imagining that history can be taught by any person who can boast of understanding the mere rudiments of English prose.

The University should not stop with the mere institution of lectures. It must see that the standard set by the lecturers is faithfully followed by the examining Board. If that is done all tendency to arbitrariness on the part of

the examiners would have vanished, and if the results still continue to be bad the schools will have to thank none but themselves for it.

It may not be out of place here to consider a suggestion that has often been made as regards the inclusion of a few High School Headmasters into the Examining Boards in addition to College Professors, because the latter would thereby get substantial help in attempting to suit their tests to the capacity of the students and would also be restrained from committing any vagaries. In spite of the support this proposal has received from a high educational authority, the step it advocates cannot meet our wants. It is, first of all, futile to condemn the examiners as men who take pleasure in plucking candidates. They have nothing to gain by it. Nothing but the very best motives prompt them to their work. Again it is no doubt true that the High School teachers may, to some extent, make the University test suit the capacity of the student. But is this really beneficial? So long as there is nothing inherently bad about the system itself what the teachers should do is not to make the University climb down but, profiting by University lectures, to try to take the students along with them and to enable those students to qualify themselves for the University standard. If, on the other hand, the High School Masters who cannot be reasonably expected to come up to Professors in attainment, are in any way allowed to influence the standard of question papers then, instead of the students going up to the University, the University will have to descend to their level. It is not the purpose of the writer to disparage in the least the merits of the hardworking members of the High School staff. With all deference to them, however, it is difficult to see how this contingency can be avoided.

After the University, comes the Government Educational Department, which exercises an effective supervision over the Secondary Schools. The inspecting staff is sent to see that all the conditions necessary for sound education are provided by schools. The Inspectors, notwithstanding the recent increase in their number, are none too many; and being over-worked they are unable to devote continued attention to those schools whose work, as we all know, they, at least to some extent, shape for good or ill. They can see that all the Rules of the University as well as the Government are properly observed. They can enlighten the school-masters with regard to the latest improvements in teaching and bring home to them any defect they may notice. The reforms introduced by Mr. Yates in the Northern Circle and the activity of Mr. Mayhew in Madras show what Inspectors can do to adjust the capacity of the students to needs of examinations and general culture. Practically there is now no competent authority other than the Inspector to see to the discharge of honest work in all the schools. Much can be done by him in checking the avarice of selfish and calculating Managers who, for the sake of running High Schools as business concerns, entertain on a miserable pittance incompetent teachers in their schools.

After the University and the Inspecting Staff, the teachers may be held responsible for the results. Many of them are unqualified men and enjoy but an uncertain tenure. In spite of the care taken by the Government, many of the High Schools entertain, even in the highest forms, for the sake of the cheapness, untrained teachers, who, in consequence of inexperience and precariousness of position, evince no interest in the welfare of the students. Proper care should therefore be taken to induce all the schools to entertain as far as possible none but L.T.'s. The advantage of

doing so will be two-fold. First, L.T.'s are certainly better than untrained men in their work. Secondly, they are permanently in the educational line and will not neglect their duties like those who enter schools only to wait, like Micawber, for something to turn up elsewhere. To keep trained men may mean increased cost but let it be clearly understood that nowhere will false economy cost society more than in the appointment of teachers. It is unfair to expect honest work from half-starved badly treated teachers. Unfortunately it has been the fate of men who have taken up education as their profession, all over the world, to work on small pay; but nowhere is their condition so pitiable as in India. The other countries are hastening to do justice to their school-masters; but here their lot is growing worse and worse. The man who does most responsible work is the least paid. This anomaly may perhaps be explained but can never be justified.

In addition to making proper selection of, and securing good prospects for, the teaching staff, the Managers must equip them with necessary apparatus for teaching. In some of the schools, the Science apparatus is limited to a few broken jars, empty bottles and machines out of order which adorn the dusty corner of a dingy room except when they or some of them, are set, for the moment, in something like working order for the edification of the Inspector during his annual inspection. The University requires practical knowledge from the students; but where is practical knowledge to come from in the present circumstances? Again, in the teaching of History and Geography, how many teachers are there who command all the apparatus and maps necessary for a clear exposition of the subjects? Even the usually strong memory of the youthful Indian mind stands aghast at the stuff that is attempted to be forced into

it. Real improvement is impossible in the students till they are made to *understand* things by practicable demonstration more than they are asked to get up passages blindly. The lack of a good library is also a crying evil in many of the schools. Except a few books in English the typical High School library contains nothing of importance. The teacher, who is too poor to go in for books on his own account, when he finds the School library of no great use, has mainly to depend on his own by no means vast resources. The improvement of the Secondary education is, therefore, impossible in the absence of good libraries.

When good prospects, a well stocked library and proper scientific equipment are provided, the Managers will have done all. The rest lies with the school-masters and their students. The former should be enthusiastic over their work. A dull, somnolent teacher who finds it an ordeal to spend even an hour with his students is the last person to inspire them with love and enthusiasm for anything. On account of his uninspiring work even the subject taught will be hated by youths, as Horace was hated by Byron during his College days. In addition to enthusiasm the teacher must have an easy command over his subject. It may not be given to all to be walking encyclopædias like the late Lord Acton whose answers to questions of students were, as Bryce mentions, so severely simple and yet so fully supported by the weight of the greatest authorities that they evoked the profoundest admiration. Still how much good can a teacher not do to students by showing an informed and an intelligent appreciation of the subject taught! Yet what many of our teachers do is this. They simply display their knowledge in getting up "notes." These "notes" contain mostly a number of extracts culled from various books without any regard to unity and thrown together to frighten the

poor students out of their wits. Instead of explaining the principles of things the teacher crams the heads of the pupils with a lot of nonsense. Where this is not the case, they content themselves with playing hide-and-seek with the pupils by merely putting them questions on obscure and unimportant points.

Again, in many cases, the portions set for the examination are not finished in time. I remember the case of a teacher who slept over his English History so long that he had to finish the whole of the Hanoverian period in two hours in the month of November. What can be expected of students who have been trained by such masters?

When the University, the Inspection Staff, the Managers and the Teachers have done all they could, the results must then depend upon the students. There is, however, nothing in the nature of things to show that the Indian student is so bad as not to come up to the standard required of him if he is given proper help. In spite of huge obstacles in his way his work has been phenomenal. He has to spend a large part of his school career in mastering a foreign language and he has to learn everything through that medium. He has to overwork himself in the stress of a depressing climate and, as often as not, is oppressed by hard domestic conditions. He has no time to think of recreation. His mind becomes morbid even before he is scarcely out of his teens. Much will have to be done to create in him a healthy spirit. His memory must be less over-burdened and his intelligence must be given larger scope for free play. This, however, is a point that does not directly bear on the main theme of this article, and therefore does not demand attention here.

A TEACHER.

THE TANJORE TEACHERS' ASSOCIATION AND THE QUESTION OF COMPULSORY VERNACULAR COMPOSITION FOR THE INTERMEDIATE EXAMINATION.

Mr. P. R. Sundara Aiyar B.A., B.L., F.M.U., issued a circular letter, dated 20th April 1908, inviting the opinion of Head Masters of High Schools and Educational bodies on the above question. The Tanjore Teachers' Association considered the subject.

The following are the views of the general body of "The Tanjore Teachers' Association" as considered and finally adopted by them at a meeting held on Monday, the 4th May 1908.

The introduction of vernacular composition as a compulsory subject with such a high percentage of minimum to secure a pass in the Intermediate Examination is injurious to the cause of University education and not likely to serve the purpose for which it is intended for the following among various reasons.

The Government of Madras, in their G. O. No. 841, Educational, dated the 27th December, 1906, in according their sanction to the Draft Regulations of the Senate of the Madras University say: "These together with the recommendations as to the remaining regulations relating to the courses of study and examinations and the rules of affiliation have now been as carefully and fully considered by the Government as the short time left to them for deliberation has permitted. If longer time had remained at their disposal the Government would have wished to refer back to the Senate for further discussion certain important points of principle, the chief of these being the exclusion from the under-graduate course as a compulsory subject of the classical and vernacular languages of India and the important question of requiring students throughout their under-graduate course to specialise, to the extent, which the Senate have recommended, the courses of study for the examinations leading to the B.A. degree." In another place in the same Order the Government say:—"The first remark to which these proposals give rise.....In these circumstances the Government have accepted *en bloc* the Senate's recommendations as to the courses of

study." A perusal of the above passages quoted from the Government Order would clearly testify to the very strong opinions which the Government hold in the matter and that they were obliged to accept the Senate's recommendations because the time within which the new regulations should have been formulated and taken effect under the Indian Universities Act of 1904 was already over and could not under the Act be further extended. In view of the above remarks of Government and as there is yet time for the colleges to settle down according to the New Regulations, the question may be taken up for reconsideration by the Senate now, for the reason that the retention of compulsory vernacular composition in the Intermediate Curriculum carries with it the following disadvantages.

The course of studies of the Intermediate Examination does not contemplate that a knowledge of one or other of the classical and vernacular languages of India is essential for an under-graduate and the grouping together of the classical and vernacular languages of India, under one of the optional groups would bring about the undesirable result of those languages being left alone in favour of the other groups inasmuch as the latter are much easier and more paying in after life, easier because serious obstacles are placed in the way of a candidate who aspires to take up a second language as he has to master a classical language or another vernacular newly at that stage of his course (which is too much to expect of him in the short space of two years) in addition to studying either ancient or modern history. The introduction of vernacular composition as a compulsory subject is not likely to be a really satisfactory substitute for a thorough and systematic study of literature and grammar.

Again received from its influence on the study of Sanskrit, it has to be said that it would have the tendency of making boys take up their vernacular languages for the Matriculation so that they might be better equipped to meet the ordeal of a compulsory test in vernacular composition in the Intermediate Examination to the detriment of

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Sanskrit and other classical languages. The study of Sanskrit has revived a good deal ever since the days of the founding of the Royal Asiatic Society of Bengal in the time of Warren Hastings and there are signs of a bright future before it; but the course now proposed would seriously affect its study and bring about its slow death if not its immediate extinction. Beyond this the proposal would have no other effect on the study of the vernaculars as the candidate is at liberty to take any optional group, not necessarily the vernacular and classical language groups for his B.A. degree. Besides this the introduction of this subject is open to the defect that pupils whose vernacular is English and pupils who take up the optional group involving a vernacular language will be made to answer a double text, once along with their I. or II. language group and again in the vernacular composition text. The vernaculars of Southern India have not developed to such an extent and their vocabulary is highly defective to express modern ideas involving scientific and other technical phraseology. No suitable provision can be made to teach the subject in colleges as the old school of pandits cannot be expected to be equal to the task of suiting themselves to modern requirements and the graduates who have specialised in the vernaculars are *rara avis* and even such graduates will have to labour under difficulties for which they are not responsible. Moreover composition can at best be valued by what is known as "The impression text" and is such a difficult subject for purposes of valuation that it would be highly inexpedient to make it compulsory and at the same time demand such a high percentage of minimum to secure a pass. A boy may express his ideas in very chaste, ornate and literary language but his thoughts on the subject proposed may be poor; whereas another boy may display a richness in thoughts but might have clothed them in an uncouth or pedantic style.

Again, to say that a boy who is well up in English and his optional group of subjects other than the language group is unfit to prosecute his study for the B.A. degree, simply because he fails

after mentioned, beginning, as far as the compulsory subjects are concerned, on the

It shall be held at such places as may, from time to time, be notified.

2. *Objects for which instituted.* The Examination has been instituted to test the attainments of pupils at the close of a secondary school course.

3. *By whom to be conducted.*—The examination shall be under the control of an Examination Board consisting of the Director of Public Instruction as President, four officers of the Indian Educational Service and three members appointed thereto by the Syndicate of the University of Madras.

The members of the Board shall be appointed for a period of three years and shall be eligible for re-appointment.

The Secretary to the Commissioner for Government Examinations shall be Secretary to the Board.

The Board shall arrange for the conduct of the examination in accordance with the provisions of this notification.

4. *To whom open.*—The examination shall be open to pupils who have completed a course of instruction in a secondary school provided—

(i) that the pupil shall have completed the age of 15 years on or before the first day of the month in which he appears at the examination;

(ii) that the pupil shall have been in one and the same school during the school year immediately preceding the examination and shall have been a pupil of a recognised school for a minimum period of two years;

(iii) that the school or schools attended by the pupil throughout the course of instruction shall have been recognised by the Director of Public Instruction as providing an efficient course of instruction in the subjects selected by the pupil;

(iv) that the pupil produces a certificate in the subjoined form signed by the headmaster of the school he is attending at the date of applying for admission to the examination:—

I hereby certify that.....has attended.....not less than 120 days of the previous school year, that he has completed a course of instruction in the following subjects.....and that his conduct has been satisfactory.

5. *Private candidates.*—Candidates who have not attended any recognised school during the period specified above in Rule 4 will be admitted to the examination only under exceptional circumstances, such as physical inability to attend school or other causes sufficiently proved in the opinion of the Board to excuse non-attendance. The Board will decide all such exceptional cases on application specially made to it. Such application must contain a full statement of the case and must be submitted so as to reach the Board on or before the.....of the year in which the examination is held, accompanied by a satisfactory certificate of good conduct and the prescribed fee which will be returned if the application is rejected.

6 *Subjects of examination.*—The following will be the subjects for the examination:—

Compulsory.

1. Arithmetic.
2. English.
3. The Vernacular.
4. History of India and General Geography of the World.
5. Elementary Physics.

Optional.

Any two of the following subjects:—

1. An additional language.
2. History of England.
3. Chemistry.
4. Mensuration and Practical Geometry.
5. Book-keeping.
6. Commercial Arithmetic, Correspondence, and Geography.
7. Shorthand and Typewriting.
8. Botany.
9. Agriculture.

Female candidates may present Hygiene and Domestic Economy, Botany, Music or Typewriting with or without Shorthand.

Drawing or Manual Training may be added to any of the subjects.

7. *Publication of results.*—The Director of Public Instruction on the recommendation of the Board will publish the results of the examination in the *Fort St. George Gazette*.

OUR ENGLISH LETTER.

BRISTOL, March, 1908.

The Education Bill has come at last. Mr. McKenna launched it upon its dubious course in a speech that was in singular contrast to that which entranced the House two years ago. There was nothing of the literary finish, none of the splendid indiscretions that marked Mr. Birrell's speech. To Mr. McKenna it was a matter of business, and his speech was short and practical. He employed none of the arts of oratory but, showed a useful gift of lucid exposition though here again he fell short of the masterly skill displayed by Mr. Asquith three days later in introducing the Licensing Bill. What is to be the fate of Mr. McKenna's Bill? It is significant that an attempt has been made to weaken the control of the Lords by making the essential clauses of a financial nature. The Lords wrecked Mr. Birrell's Bill, as Mr. Birrell has not yet forgotten, if one may infer anything from covert references that fall from his lips on the public platform. Twice he has been their victim. Mr. McKenna is trying to win a victory over them by avoiding a conflict at all as far as possible. And he regards this as a last attempt at a reconciliation of the ecclesiastical interests involved. 'If we fail once more, if we continue to disagree, we shall have given the most powerful impetus in our generation to the opinion that religious education in the schools is a last cause.' This is an ultimatum. What grounds are there for

hoping that this suggested compromise will find acceptance? We shall see this best from a brief revision of the proposals made in the Bill.

'Down to 1902, and to-day, there are two kinds of public elementary schools—the provided and the non-provided. It is proposed that there shall be but one type of public elementary school, provided by the public, managed by the people, and with the teachers appointed without religious tests.' This is the cardinal principle of the Bill as Mr. McKenna stated it. Only one type of public elementary school, but alongside of these schools there are to be found others—voluntary schools which have availed themselves of the privilege of 'contracting out.' By this means they will retain their old denominational privileges. Tests for teachers and special religious teaching will be open to them. They will be obliged to keep their standard up to that of the public schools. The Board of Education will maintain a strict supervision by means of inspectors—under a Liberal administration at any rate.

Another main feature of the Bill is the increased aid that the Treasury is giving. A new scale of grants is to be adopted which will amount on the average to £2 7s. per child. This will mean an increase of from four to six shillings a child and will entail an additional expenditure from the Exchequer of a million and a half. This will go far to relieve the overburdened local authorities. And inasmuch as the average Briton protests even more loudly against rates than against taxes this fresh grant will be welcome to everyone but the Chancellor of the Exchequer whose battle for economy is proving so severe. Thus the Bill provides for the co-existence of two entirely different types of schools. In single-school districts the school must be a public one, and this gives the Nonconformists what they have so clamorously demanded. But in districts where there is a choice of schools, the interests of the voluntary schools are to be studied. There can no question of the fact that they are hard

upon our teacher and instead of acting up to that teaching:—

"Let knowledge grow from more to more,
But more of reverence in us dwell—"

We have allowed knowledge and reverence to vary directly and with the increase in the former we proportionately lose the latter.

But the modern professor or teacher, though handicapped in these respects has an advantage over his predecessor in having (1) debating societies and (2) sports section—these being denied to their predecessors—and these are the institutions which should be more extensively patronised and encouraged by the professors. The latter is, generally speaking, more popular now than it was in early generation and the former is also gradually coming to the front amongst students' institutions. And these are the two places where the professor will see the student in his most natural aspect, when he has thrown off his reserve and in his inner aspect. But except in a very few instances my experience shows that these opportunities are not generally availed of by the professors. I can certainly sympathise with the professor who tells me that he cannot feel any interest in debating societies—that speeches, except from public men—on subjects of importance are an inflection, when they come from the students—that he is bored when he attends such a meeting—and I can also sympathise with the professor who tells me that the "field" is the last place he would go to—he does not feel any interest in the games or that he has his own social duties in the evening—or his Tennis party or his drive—five hours of student-society to him is quite enough. The professor has indeed very often to make small sacrifices to know his students in a country where the social aspect is shut out altogether.

But this is not all. The best-intentioned teachers even are often handicapped in other ways and I will put down a conversation I once had with a European professor who had an ideal relationship with his students but who wanted to make the personal touches with his students, whenever possible, agreeable interesting to each other and to be productive of more good results.

"You see, in English Universities," he began "it is the social life that brings students and professors together, more than anything else—the social aspect is more effective in knitting us together than anything else and this social factor is entirely absent in this country." "Nothing can be done in the class-room where I am busy with lectures." Sir Gurudas believes that the class room should be the venue of the "*Entente cordiale*" between the students and the teachers," I remarked.

We both agreed that this was not practicable.

"I often ask my students to come and see me at home," he began, "but my experiences are not very happy. Firstly, I cannot make any social advances—so I have to fall back upon conversation mainly—but my students will not talk—they sit still, staring at me and at the ceiling, till I take pity on them and ask about this or that when I probably get a monosyllabic reply. This goes on as long as my questions last but I get tired of asking about this and that till I get positively bored and the student I can see is bored too and he probably thinks, when shall Mr.—finish and I think when will he be going till I rise up and give him the hint and he gladly betakes himself off. I feel like a pump, asking and asking as if the student gives the screw a turn and sets it going a-while."

"The Indians", I remarked, "are not in the habit of talking before their elders and superiors and they probably feel shy in the beginning—moreover some first year students suffer from not being able to talk fluently in English for any length of time."

"Yes, I understand the cause right enough," he said, "but things would have to be improved. Now, what does a first year student feel like? What are his intimate thoughts? what is his life like?"

I pondered a while and said, "It depends—town boys and country boys differ and it all depends on the previous bringing up—" and I tried to fix up a general type of a first year student and failed.

And we agreed that I should write a short paper on the subject and invite a first year student to give us his ideas on the general type of first year students:—*The Calcutta University Magazine*.

Reviews and Notices.

PRACTICAL PHYSICS. BY JAMES SINCLAIR, M.A., B.Sc. PARTS II AND III. GEORGE BELL AND SONS, LONDON.

These two volumes form the second and the third of a series of elementary handbooks on practical physics. The second part deals wholly with heat, and the third is entirely devoted to light. The theoretical part of the subject is completely omitted. This is to be supplied by the teacher in the exposition which is assumed to precede each exercise. Many of the experiments are of the familiar sort, but the experiments on conduction and radiation, in which sensitive ink is used as an indicator, are novel. The apparatus employed in the various exercises is of the simplest

sort. Each exercise or group of connected exercises is followed by questions and appropriate problems. Tabular blanks for entering the results of measurement appear to us to be undesirable. They often make the student to work blindly and attend to nothing else than finding figures to fit the formulæ and fill up the blanks. These books may be consulted with profit by the teachers of physics in second-grade colleges.

HAECKEL'S RIDDLE OF THE UNIVERSE CRITICISED.
BY THE MAN IN THE STREET. HIGGINBOTHAM AND CO., MADRAS.

Though we hold no brief for Haeckel's views, we feel bound to say that there is more argument and reason in Haeckel's *World-riddle* than in the book before us. The author seems incapable of distinguishing between dogmas and truths. Any proposition which affords him satisfaction is a spiritual truth. And what is spirit? "The spirit is a product of the spiritual world, and is spiritual, begotten in man by God." Can we have a worse example of reasoning in a circle? We wish the author had read more and reflected still more before he ventured to be a guide and help to others.

THE INTERNATIONAL GEOGRAPHY BY SEVENTY AUTHORS. EDITED BY H. R. MILL. SECTION III. ASIA. MACMILLAN AND CO., LIMITED, LONDON, 1907.

The special feature of this series of geographical text-books is that the description of each country is written by an accredited authority, having in most cases personal knowledge of the country described. The countries are all described on a uniform plan embodying the principles of geography. To make up for the paucity of figures in the book, the teachers of geography are asked to form an album of picture post-cards, which illustrate some characteristic view or scene. On account of its inherent interest the study of geography may be enjoyable, but we doubt very much if any would enjoy the study of geography if he has to carry in his brain for examination purposes all that is contained in this book. The addition of specimen questions, copied from various examination papers, does not, in our estimation, enhance the value of the book either as a text-book for use in schools or as a work of reference.

LE ROMAUN D'UN JEUNE HOMME PAUVRE BY OCTAVE FEUILLET. EDITED BY J. LAFFITTE.—LA JENNESS DE CHATEAUBRIAND. EDITED BY GERALD GOODRIDGE.—SERVITUDE ET GRANDEUR MILITAIRES BY ALFRED DE VIGNY. EDITED BY C. L. FREEMAN. CLARENDON PRESS, OXFORD, 1907.

These three books belong to the Oxford Modern French Series edited by Leon Delbos. This series consists of a few carefully selected modern standard French works. The notes of the editors bear mostly on literary and historical points.

"ELEMENTARY BOTANY IN TAMIL" BY MR. K. RANGACHARI, M.A., L.T., GOVT. MUSEUM, MADRAS. PRICE RE. 1-8 AS. A COPY.

This is not a piece of patch work or translation from English Text-books but a genuine piece of original work honestly done in the true interests of education by one who loves and knows the subject on which he has undertaken to write. The illustrations are both numerous and excellent and the examples taken are all from common South Indian plants. The style is simple and the terminology, a real difficulty in the case of vernacular books dealing with scientific subjects, is both apt and clear. In the reorganisation of rural education which has just been taken in hand we are sure natural science, and Botany especially, will occupy a prominent place and Mr. Rangachari's book has come in as a timely help to the Department, which we have no doubt, will be fully availed of. The book for the present must be found to be of immense use in our training schools for elementary teachers and the knowledge of Botany thus imparted to these young teachers under training must prove to be of greatest help in building up gardens in village schools and in making elementary education both useful and practical. We hope to see the book soon translated into the other vernaculars also and we are sure with similar elementary text-books on other scientific subjects and with teachers properly trained and equipped, rural education will soon become more practical and useful and our boys and girls will be early trained in the proper use of their powers of observation and understanding. We congratulate Mr. Rangachari both on the arrangement and subject-matter of the book and assure him that he has done a real service to education in writing it. The get-up reflects great credit on the M. E. Publishing House, Madras.

Indian Educational Notes.

MADRAS.

Major W. J. Niblock, I.M.S., to act as Superintendent, Medical School, Royapuram, during the absence of Lieutenant-Colonel F. C. Reeves, I.M.S., on leave or until further orders.

Capt. R. D. Willcocks, I.M.S., to act as Professor of Biology, Medical College, Madras, during the employment of Major W. J. Niblock, I.M.S., on other duty or until further orders.

Lieut.-Col. F. J. Crawford, I.M.S., to act as Principal, Medical College, Madras, during the absence of Lieut.-Col. W. B. Browning, C.I.E., I.M.S., on leave or until further orders.

Major T. H. Symons, I.M.S., to act as Professor of Anatomy, Medical College, Madras, during the employment of Lieut.-Col. F. J. Crawford, I.M.S., on other duty or until further orders.

Capt. E. W. Browne, I.M.S., to act as Professor of Materia Medica, Medical College, Madras, during the employment of Major T. H. Symons, I.M.S., on other duty or until further orders.

Mr. P. P. Braithwaite, Inspector of Schools, Sixth Circle, has privilege leave for three months from or after the 1st June, 1908.

The following promotions have been made:—

Mr. M. Valayudasari from the 7th to the 6th grade.

Mr. C. A. Wilkinson, B.A., from the 8th to the 7th grade.

Mr. P. Rajagopala Aiyar, M.A., from the 9th to the 8th grade.

Mr. V. Krishnaswamy Jatavallabhar B.A., to the 9th grade.

The promotion of the first three officers to have effect from the 11th November 1907, the date of the retirement of Mr. Ince.

Mr. V. Krishnaswamy Jatavallabhar, B.A., sub-protem Personal Assistant to the Director of Public Instruction, to be Personal Assistant to the Director of Public Instruction.

Mr. M. Govindan Nair, Sub-Assistant Inspector of Schools, Cannanore Range, the leave on medical certificate granted to, is extended by 14 days.

Mr. V. Sayanna Sastri, B.A., L.T., Sub-Assistant Inspector of Schools, acting in the Bapatla Range, the privilege leave granted to, is extended by one day.

The Director of Public Instruction makes the following appointments:—

Mr. S. Bhuvuraha Rao, B.A., L.T., Sub-Assistant Inspector of Schools, Ellore Range, to be Sub-Assistant Inspector of Schools, Kavali Range, vice Mr. G. Rama Aiyangar—to join on relief.

Mr. K. Narasimham, B.A., L.T., Second Assistant Instructor in Drawing, College of Engineering, to be Sub Assistant Inspector of Schools, Ellore Range, in the probationary class, vice Mr. S. Bhuvuraha Rao, B.A., L.T.—to join on or about the 15th June 1908.

A Supplemental Convocation for the purpose of conferring degrees was held in the Senate House recently, the Honourable Sir Ralph Benson (Vice-Chancellor) presiding.

The following Fellows of the University were present:—Reverend G. Pittendrigh, Reverend J. Lazarus, Mr. J. M. Velu Pillai, Mr. T. Ramakrishna Pillai, Lieutenant-Colonel J. L. Van Geyzel, I.M.S., Lieut.-Colonel R. Robertson, Mr. E. Winckler, Mr. H. Malin, Mr. Sultan Mohideen Sahib, Mr. Mir Sultan Mohideen Sahib, and Mr. Krishnan.

The reports of Examiners being taken as read, on the motion of Reverend G. Pittendrigh, the graces of the Senate on behalf of the candidates for admission to the several degrees were passed by the Vice-Chancellor.

The Vice-Chancellor asked the candidates to stand forward and put to them the usual question, to which were returned the stereotyped answers.

Candidates for degrees were then presented. Reverend J. Lazarus presented the following candidates for L. T. Degree:—Theodora Lazarus and Elleen Schofield.

Lieutenant-Colonel J. L. Van Geyzel, I.M.S., then presented the following candidates for M.B. degree:—R. R. Williams, R. A. D. Graham, Edith Maud Peacock, D. Krishnaiya, V. Srinivasa Rao, N. Lakshmana Iyer and K. Joseph Chandi.

Lieutenant-Colonel C. Robertson presented the following candidates for L. M. and S. Degree:—B. M. Harivallabha Das, D. J. Buch, B. Surendranath, S. Kumaraswami, H. S. Hensman, R. Nayaramaswami Naidu, V. Muttuvellu, R. Ganapathi, C. S. Vedum Iyer, and T. Balakrishnan.

The following candidates who appeared for M. B. but were qualified for L. M. and S. were also presented by Lieut.-Col. Robertson and received the L. M. and S. degree:—Nadirshah Danjishah, B. Nanjappa, J. A. Iswaramurti, Syed Ghulam Hussain and M. A. Srinivasan.

Rev. J. Lazarus presented the following three candidates for B. A. degree:—B. Kamaraju, R. Alwares and L. M. John Mathias.

All the candidates having been presented, the Vice-Chancellor admitted them to the various degrees for which they were presented and authorised them to wear the hoods ordained as the insignia of their degrees.

The Registrar then presented to the Vice-Chancellor the record of the degrees conferred, and this having been signed, the Vice-Chancellor dissolved the Convocation.

The Madras Government has called the attention of, among others, the Collector of Malabar to the necessity of making suitable provision to encour-

age the education of the children of coolies employed on plantations in this district.

GOVERNMENT have sanctioned a maximum grant of Rs. 1,800 towards the cost of providing additional accommodation for the Kalligota College, Berhampur.

THE Government have sanctioned the payment, in the current year, to the Municipal Council of Tinnevely of a grant of Rs. 650 towards the cost of constructing a building for the Municipal Panchama School.

THE Commissioner for Government Examinations has been informed by the Government that he may, under paragraph 3 of the Special Test notification, fix for each year in consultation with the examiner, the time to be allowed for answering the paper on Précis-writing.

THE Government have sanctioned a maximum grant of Rs. 4,100 towards the cost of providing the Mylapore Girls' School with suitable accommodation.

THE Hon'ble Mr. Justice Wallis has been appointed Vice-Chancellor of the Madras University.

H. H. The Maharajah of Travancore has been pleased to contribute Rs. 500 to the new building fund of the Madras Christian College.

In the report submitted to the Director of Public Instruction by the Principal of the Kumbakonam College in re the working of the Kumbakonam College during the year 1907, Mr. Hodges, the Principal, alluded to the work of Mr. K. Sundararama Aiyar in the following terms:—"By the retirement of Mr. Sundararama Aiyar, Government has lost an able and faithful servant, and the College one of its best counsellors and friends. Officers under whom Mr. Sundararama Aiyar served during his long service are unanimous in his praise and to their testimony I need only add that personally I have found him an able lecturer, a conscientious tutor, and a most scrupulous, trustworthy, and honourable officer."

The Director of Public Instruction in his proceedings, dated 4th May 1908, reviewing the above report has made the following remarks in regard to the work done by Mr. K. Sundararama Aiyar:—"The Director desires to place on record his high appreciation of the good work done during his long connection with the department by Mr. K. Sundararama Aiyar, who retired from service in the second term of last year."

THE District Board of Tanjore is maintaining a Weaving School on a small scale at Iyempet, a weaving centre in the District at which instruction in weaving by means of modern machinery such as fly-shuttle looms, etc., is imparted free to the sons of

wearers resident at that place and its neighbourhood.

THE Government have resolved to delegate to the Director of Public Instruction the powers now vested in them by Rules 24, 85 and 91 of the Madras Educational Rules, namely, (1) of recognizing diplomas and certificates other than those specified in the Educational Rules and (2) of prescribing the list of text-books for schools under public management. They also consider that the power to accord special sanction to the levy of lower rates of fees in schools in backward localities should also be delegated to the Director. Suitable alterations have been made in the Educational Rules.

A GRANT of Rs. 7,000 has been allotted in 1908-1909 to the Zamorin's College, Calicut, out of the special grant to be placed at the disposal of this Government by the Government of India in aid of University education. The Accountant-General is authorized to disburse this sum on bills countersigned by the Director of Public Instruction. Before taking in hand the works on which it is proposed to incur expenditure out of this grant, the governing body has to obtain the general approval of the Director as to the objects on which it is to be expended.

A QUESTION regarding the refusal of the Madras Government to act on the recommendation of the University Senate that the Basel Mission High School, Calicut, should be affiliated to the University was to have been asked recently in the House of Commons by Mr. O'Grady. In this question, Mr. O'Grady draws the attention of the Secretary of State for India to "the fact that the one college in Calicut, the Zamorin's College, admits only students of high communities, excluding the Thiyyas, and that over 50 per cent. of the students at the Basel German Mission High School are members of the Thiyya community, who, by this decision, are deprived of the opportunities of higher education."

MYSORE.

THIS year, it is notified, that the Government of Mysore will award three Engineering Scholarships and two Medical Scholarships. The Engineering scholarship worth Rs. 30 will be tenable at the Madras Engineering College for a period of 3 years. The Medical scholarships worth Rs. 25 a month will be tenable either at the Madras Medical College, or the Grant Medical College, Bombay. The competing candidates must have passed the B.A. Examination and they must be natives of Mysore by birth or domicile. May we ask the Dewan Sahib why these scholarships were not thrown open to the whole of India and why they are restricted only to the Natives of Mysore. This is not in keeping with the tradition of the policy that he inaugurated in Mysore as soon as he became the Dewan.

A FAREWELL entertainment in honour of Mr. John Cook, late Principal Central College, was recently given, at the Arcot Narainswamy Mudaliar's High School. Mr. Puttanna Chetty, Second Councillor, Mysore Government, read an address to Mr. Cook which was of a highly eulogistic character, and made graceful reference to Mrs. Cook's share in the work of her husband. Mr. D'Sonza presented the silver salver, which is a souvenir of Mr. Cook's "friends and past students." In his reply Mr. Cook said that Mr. Puttanna had spoken about the gulf between East and West, but after 20 years' residence in this part of India he could say that such a feeling never existed in Mysore, and that he had never seen such except as newspaper myths. Mr. Cook regarded himself as "only a kind of education maistry," having done a small bit of a great trunk road that is being constructed in India.

It is expected that one or more scholarships for the study of Physics will be established to commemorate Mr. Cook's work in the Central College.

TRAVANCORE.

Mr. E. S. W. Sennathipathi, Barrister-at-Law, of the English Inns of Court, who practised at Colombo, is likely to act in the absence of Mr. F. J. R. V. Hunt, Puisne Judge and Principal, Law College, Trivandrum, as he has been recommended for the place to the Palace.

COCHIN.

Miss Ida Gunther, B.A., L.T., Head Mistress, Trichur V. J. G. High School, has been granted one month's privilege leave with effect from 6th Menom, 1908. Miss Gunther has resigned, and Miss Schofield, B.A., L.T., who has been entertained as the first Assistant, is now acting for the Head Mistress. In all probability Miss Schofield will be confirmed as Head Mistress as she possesses all the qualification required for the post. In that case, the Sircar will have to look out for another First Assistant.

BOMBAY.

SOCIAL GATHERING OF THE STUDENTS AND EX-STUDENTS OF THE TELANG HIGH SCHOOL, GODHRA.

A very interesting programme of the entertainments was gone through before a large audience in the Central Hall of the High School at Godhra by its students, aided by a couple of ex-students, under the guidance of the Headmaster recently. The whole of the day was a gala day for the pupils of the Institution, inasmuch as the pleasant ceremony of prize distribution was held in the morning under the Presidentship of Mr. R. C. Brown, I.C.S., and the evening was enlivened by a round of checkered amusements. There was Kitson light in the compound as also in the hall. The well-known Court scene of the Merchant of Venice was creditably performed and elicited frequent plaudits from the audience. It was obvious that most of the performers had entered into the

spirit of the parts assigned to them. The farce of a wealthy Bania Merchant, ruthlessly robbed of what he deemed dearer than life itself, by a band of outlaws, ludicrously depicting the consternation and agony of the millionaire was the most attractive spectacle. The other farce from the dramatic works of Moliere, the well-known French genius, of the Fencing Master, the Music Master, the Dancing Master and the philosopher each contending vehemently for the excellence of his own calling ranked second to it. A scene from the notable novel entitled "Saraswathichandra" by the late lamented eminent writer Mr. G. M. Tripathi, wherein the hero takes refuge in a hermitage added greatly to the amusement, especially the 'ascetics' phantastic mode of singing in a chorus and bounding in a right jolly style. Mr. and Mrs. Brown who graced the gathering with their genial presence for about an hour and a quarter expressed themselves well-pleased and praised the performance of a good many of the actors. Mr. D. M. Patwardhan, the Deputy Collector, Dohad, felt so deeply interested in and appreciated the entertainment so well that he complimented the Headmaster on the able training given to them and of his own accord expressed his desire to reward the labours of five of the performers. The Headmaster requested Honourable Mr. Gokaldas Kahandas Parikh to distribute the prizes and thanked heartily the donor for the special encouragement. Mr. H. L. Cross, the Assistant Commissioner, Northern Division and Dr. Telang, who were present throughout occasionally eulogized the enjoyable treat. The party broke up after the exhibition of a magic lantern and after partaking of the refreshments provided.

CALCUTTA.

THE Hon'ble Mr. Justice Asutosh Mukherjee M.A., D.L., D.Sc., F.R.A.S., F.R.S.E., has been re-appointed Vice-chancellor of the University.

It is proposed to raise the status of the Asiatic Society of Bengal, which will be in future called the "Imperial Asiatic Society of India." Dr. Schuster, who recently received an honorarium of Rs. 5,000 for delivering a series of scientific lectures to the University, will be elected the first Fellow of the new Society.

BABU Bepin Dehari Das, Demonstrator of Physics at the Presidency College, Calcutta, has been deputed to study carp culture in Austria and Germany and to learn practical fish-curing at Hull and Aberdeen. He leaves for England early next month.

THE death is announced of Rev. Father Lafont, the well-known scientist of Calcutta.

RAI Durga Charan Chakravarti Sahib, of Village Somra, in Thana Balagarh, in the district of Hooghly, has offered Rs. 10,000 in Government Promissory

Notes for the creation of an endowment for the maintenance of the Somra Durga Charan High School. The Lieutenant-Governor has accepted the offer. The Government Solicitor will be instructed to draw up a deed of conveyance for vesting the property in the Treasurer of Charitable Endowments. The Magistrate of Hooghly will be the Administrator of the fund. The Lieutenant-Governor desires that the thanks of Government may be conveyed to the donor for his liberality and public spirit.

THE Secretary of State has appointed Mr. James Alexander Richey of the Balliol College, Oxford, and Mr. Richard Bury Ramsbotham of the Magdalen College, Oxford, to be members of the Indian Educational Service and to fill the two vacant posts of Inspectors of Schools in Eastern Bengal and Assam.

Mr. Manohar Lal, M.A., Principal, Ranbhir College, Kapurthala, has been appointed Examiner in Political Economy for the B.A. Examination, both for Pass and Honours papers of the Calcutta University. Mr. Lal, who is a graduate of Cambridge, was, it will be remembered, the Cobden Prizeman at the University in 1904 and held a lectureship at his College for a short time. He is the only Indian who has attained to either of these distinctions.

Six new National Schools, viz., those at Noakhali, Jessore, Sylhet, Jalpaiguri, Giridih and Kamargram (Faridpur) have been affiliated to the National Council of Education, Bengal. The total number of National Schools affiliated to the Council comes up to seventeen.

In view of the growing number of National Schools seeking the support of the National Council, the Council has sanctioned the appointment of an Inspector of National Schools.

The last year's grants-in-aid of the Council for its affiliated National Schools which amounted to Rs. 9,000 have been raised this year to Rs. 12,000.

The total sum to be spent by the Council on scholarships and stipends this year is Rs. 3,600 as against Rs. 2,159 for the last year.

There have been recently two very substantial additions to the income of the National Council: (1) The Maharaja of Cossimbazar has offered to pay an annual subscription of Rs. 2,000 to the Council.

(2) The well-known Law family of Calcutta has through Maharaj Kumar Kristo Das Law, the head of the Family who fills a distinguished place in the public life of Calcutta offered for the promotion of the objects of the Bengal National College and School the sum of Rs. 4,000 per annum.

These additions make the assured income of the Council over Rs. 60,000 per annum.

The question of primary education on national lines and under national control has been gradually coming to the front. The Council has already received applications for the affiliation of about hundred primary schools and has affiliated the Dhap Free Primary National School in the district of Rangpur. A sub-committee has also been appointed

to frame an alternative primary scheme of studies to suit the requirements of primary national education in rural areas.

Mr. R. C. Bonnerji, Bar-at-law, a son of the late Mr. W. C. Bonnerji, lately delivered the first of his series of National Council of Education Extension Lectures on *English Literature* in the premises of the Bengal National College.

PUNJAB.

MOULVI Wahid-ud-din, B.A., Professor of Arabic at the M. A. O. College, Aligarh, has been appointed Professor of the same subject at the Muir Central College, Allahabad.

At a meeting of the Syndicate of the Punjab University a few days ago, the question of the appointment of Boards of Moderators was raised in communications received from two Indian Members of the Senate. It was urged that properly constituted Boards of Moderators were needed to check violent fluctuations in the standards on which question papers are framed; the Syndicate recognised that the creation of such Boards would go a long way to minimise the difficulties felt at present. But some of the speakers feared that the appointment of Moderators would increase the chance of leakage, to which question papers must be liable if made known to a number of persons. It was also said that some of the examiners, more especially in the higher examinations, would not be willing to serve the Punjab University if they knew that the papers set by them would be revised by others. A Sub-Committee was appointed to go into details and make definite recommendations for the consideration of the Syndicate.

UNITED PROVINCES.

THE Secretary of State has sanctioned the addition to the staff of the Muir Central College, Allahabad, of two professorships in the Indian Educational Service, one for English and one for History.

The Registrar of the University of Allahabad notifies:—

(1) That the Intermediate and Matriculation Examinations of 1909 will be held on Monday, the 22nd March 1909 and following days beginning at 7 A. M. each day—one paper as far as possible being given daily.

(2) That the Degrees (Arts and Science) Examinations of 1909 will be held on Monday, the 5th April 1909, and following days, beginning at 7 A. M. each day—one paper as far as possible being given daily.

The Degrees (Science) Practical Examinations will, however, commence on Thursday, the 1st April 1909, beginning at 7 A. M. each day.

(3) That the Supplementary LL. B. Examination of 1909 will commence on Monday, the 3rd May 1909, beginning at 7 A. M. each day—one paper being given daily.

THE annual report of the Central Hindu College, Benares, for the year ended September 1907, states that though the year was a hard one for the institution in some respects the numbers on the rolls show an increase. The total of the College Department has risen from 185 to 235 and that of the school from 514 to 544. If the figures for the Sanskrit Department were added, the total number of students under instruction in September 1907 would be 925. This total would have been nearly 1,200 if about 300 applications had not had to be refused for absolute lack of room.

THE following rules have been framed by the United Provinces Government:—

Rules for the encouragement of wives or female relatives living under the care of Hindu and Mahomedan school teachers to qualify themselves for employment as teachers in schools, or as governesses (Sanctioned in G. O. No. 317 (1) XV—332 (7) A 22, dated 1st April 1908).

The purpose of the following rules is to encourage the wives or female relatives living under the care of Hindu and Mahomedan school teachers to qualify themselves for employment as teachers in schools or as governesses by the offer of scholarships and rewards as hereinafter prescribed:—

A scholarship of Rs. 3 per mensem tenable for two years will be allowed to the wife or female relative living under the care of a Hindu or Mahomedan teacher, who having passed an examination by the lower primary standard undertakes to study privately for the vernacular upper primary examination.

Similarly a scholarship of Rs. 4 per mensem tenable for two years will be allowed to one, who having passed the vernacular upper primary examination continues her studies privately with a view to passing vernacular final examination.

The following rewards will also be given—

(1) a reward of Rs. 50 for passing the vernacular upper primary examination;

(2) a reward of Rs. 100 for passing the vernacular final examination;

(3) a reward of Rs. 150 for passing the standard of the high school scholarship examination;

(4) a reward of Rs. 250 for passing the Matriculation or school leaving certificate examination;

Provided that no scholarship or reward shall be allowed unless the recipient signifies in writing her willingness to serve as a teacher or as a governess and the Department is satisfied that there is real prospect of her being able to engage in teaching either in a school or as a governess;

Provided also that the continuance of scholarship shall depend on the favourable report of the Inspectress regarding the recipient's progress in her studies. For this purpose scholarship-holders may, if necessary, be required by the Inspectress to present themselves at a convenient place in the district. In such cases single third class railway fare shall be allowed for the scholarship-holder and the guardian accompanying her and for road journeys of

more than five miles, a mileage allowance at the rate of one anna per mile.

Travelling allowance at the above rates shall also be allowed when the scholarship-holder has to travel in order to appear at a standard examination.

Arrangement shall be made for the strict observance of the *purda* during examination.

Applications for examinations for scholarships and rewards should be made to the Inspectress of the division. Candidates will be informed of the date and place of examination by the Inspectress.

Bills for scholarships, rewards and travelling allowance shall be passed by the Inspectress.

INDIA (GENERAL.)

WE understand that Mrs. Kamalakkar, a student of the Madras Medical College, who went to Edinburgh in August last year, to continue her medical studies, has passed the L. R. C. P. and S. (Edin.) and the L. F. P. and S. (Glasgow) and will proceed either to London, or Dublin, for further study in the special diseases of women and children.

THE Revd. W. Holland, Warden of the Oxford and Cambridge Hostel at Allahabad, addressed a meeting at Oxford on behalf of the Hostel recently. Lord Curzon, in sending his contribution wrote that of all institutions likely to keep the young Indian students straight, and to develop a sobriety of judgment, this Hostel is the most efficacious. Its influence is particularly valuable at this time when the young Indian is surging with new ideas, sincerely praiseworthy in themselves, and capable according to the guidance they receive, of doing great good or great harm. There is no higher object to which Englishmen can be devoted than to helping forward the Indian character, intelligence and progress.

THE Secretary of State has sent out to the Government of India a considerable portion of the scientific literature which was once contained in the library of Royal Indian Engineering College at Cooper's Hill.

THE Utkal Conference, which has just closed its sittings, has resolved to send two students every year from each district to learn agriculture at the Government Schools at Cuttack and the different branches of studies in Japan and America; and also to establish Dharmagolas for the prevention of famine and to find means for the improvement of female education.

THE Government have informed Dr. Morris W. Travers, Director of the Indian Institute of Science that they approve of the action taken for the purchase of books and apparatus required for the Institute and that the promised contribution of Rs. 50,000 will be remitted provided the contribution of the Government of India is paid on the date appointed for that purpose.

THE Secretary of State has appointed Mr. Douglas Gordin Schulze of the Morton College, Oxford, to the Home appointment of Inspector of Schools, Burma.

WITH the object of extending the scope of the Rangoon College the Secretary of State has sanctioned the addition to its staff of the following appointments:—A Professor of English and History, a Professor of Philosophy, an Assistant Lecturer in Mathematics and Physics. The Professors will be members of the Indian Educational Service.

Foreign Notes.

GREAT BRITAIN.

MR. Lockwood Kipling has presented a portrait of himself to the Mayo School of Art, of which he was once the Principal.

THE Vice-Chancellor of Cambridge announces that the Professorship of Political Economy is vacant by the resignation of Professor Marshall. This chair has been held by Professor Marshall since 1884.

THE Le Bas Prize at Cambridge, open to graduates of the University who are not of more than three years' standing from their first degree, has been awarded to Mr. Edward Farley Oaten, B.A., LL.B., of Sidney College. The subject given out was: "European Travellers in India during the Fifteenth, Sixteenth, and Seventeenth Centuries; the evidence afforded by them with respect to Indian social institutions and the nature and influence of Indian Governments." Mr. Oaten won the same prize last year.

IN the House of Commons the second reading of the Irish Universities Bill was adopted by 344 votes against 31. The minority consisted of the Irish Unionists and Non-Conformist Radicals. The Bill provides for the conversion of the Queen's College, Belfast, into a University for the establishment of a University at Dublin, with three branches at Cork, Galway and the new college at Dublin. The existing Royal University is to be dissolved, but the scheme does not affect the Trinity College.

THE Cambridge University has conferred the Degree of Doctor in Science on Mr. C. A. Barber, Government Botanist, Madras.

IN the House of Commons Mr. McKenna in moving the second reading of the Education Bill said that it was the earnest desire of the Government to reach a settlement and if after the second reading a generally satisfactory agreement could be reached which could be incorporated in the amendments, such amendments will be as far as possible accepted. Failing an agreement the Government will proceed with the Bill as it stands.

Viscount Morley has been appointed Chancellor of the University of Manchester.

THE Powell Duffryn Steam Coal Company, in South Wales, have agreed to subscribe 1,000*l.* a year for five years towards a South Wales Mining School, and the Ocean Coal Company is subscribing a like amount. The companies hope to raise 50,000*l.* to train young men to deal with the problems arising in the South Wales mines.

THE Earl of Rosebery is now Chancellor of Glasgow University as well as of London. At his election on the 1st inst. it was pointed out that the new Chancellor is an honorary LL.D. of each of the four Scottish Universities and has served as Rector of three of them. The installation ceremony will probably take place in June.

THE Royal Asiatic Society has now made its fifth annual award of its Public Schools Medal for the best prize essay sent in from the competing schools on a selected subject bearing on the history and geography of the Indian Empire. It is incumbent on each of the public schools entering to give regular instruction in the subjects named, and the paper sent in from each school is the one adjudged by the school authorities to receive the book prize offered by the society, or, in some cases, by the school. The gold medal has this year been awarded to a Harrow boy Hugh Kingsmill Lunn, son of Dr. H. S. Lunn, the founder of the Grindelwald Conference. The subject for competition was "Lord Clive and his Times." The medal will be presented by Lord George Hamilton on July 1 next. In previous years the trophy has been secured by Eton, Westminster, Rugby, and Merchant Taylors.

THE appeal for £200,000 for the erection of a "World's Tribute" to Shakespeare is meeting with hearty and wide response. From all lands contributions keep pouring in. Venice, in particular, is grateful to the Bard of Avon for "having collected so much fascination of poetry on Venice," and also as "a token of regard and gratitude to the British nation from whom Venice has received so many proofs of sympathy and benevolence."

AT a Congregation of Cambridge University recently Lord Rayleigh, F.R.S., of Trinity College, formerly Professor of Experimental Physics, was unanimously elected Chancellor of the University in place of the late Duke of Devonshire.

MR. Lloyd George delivered four speeches at Manchester on behalf of Mr. Churchill, denouncing Fiscal Reform and advocating a conciliatory compromise on the education question.

A DINNER was held recently to raise £10,000 for the Jewish Religious Education Board, which educates 10,000 children at twenty centres at a cost of a penny an hour per child.

UNDER the Education Bill London will get £1,710,000, Scotland £1,987,000 while their populations are 4,536,541 and 4,472,103, and the amounts raised by rate £3,100,000 and £1,250,000.

Mrs. Bywater has left £35,000 to Oxford University.

SCHOOL libraries will be provided to 150 non-provided senior departments annually until all are supplied.

THE gross expenditure on education last year was £3,002,681 and receipts £1,341,544.

THE Committee has accepted an offer of twenty-five prizes of 10s. each for encouraging cleanliness among elementary scholars.

Mr. Reginald McKenna has been made First Lord of the Admiralty and is succeeded by Mr. Walter Runciman as President of the Board of Education. Mr. McKinnon Wood replaces Mr. Thos. Lough as Parliamentary Secretary.

THE net expenditure on education this year will be £3,670,628, an increase of £211,764.

EDUCATIONAL expenditure has increased since 1904 from £4,285,773 to £5,437,908.

A NEW school at a cost of £10,000 is to be provided at Chatham.

Mr. C. H. Monro has bequeathed £35,000 to Cambridge University.

THE total increase in Government grants under the Education Bill is £1,400,000.

AMERICA.

Mr. Girindra Mukerji, President of the Association of the Oriental Students of the University of California, has published an extremely useful little handbook of "Information about American Universities for Oriental Students." It can be obtained from the compiler at Berkeley, Cal., U.S.A., and we would strongly urge upon all Indian students who are intending to pursue a course of study in the United States to send for a copy and earnestly consider its contents before they undertake the journey. An excellent map gives particulars of the various centres of industrial education, and a table is added giving full details of the tuition fees, living expenses, and curriculum in connexion with residence at each of the seventy-four Universities named therein.

A new professorship of education has been established in the Johns Hopkins University. It is a widening of the field of the work of the University,

which is sure to benefit both the institution itself and the schools. Education is a science. Pedagogy is a well-developed branch of this science. Johns Hopkins is to be congratulated on the practical application of this fact in the University curriculum.

Professor Charles A. Beard, of Columbia University, told the history teachers of the Middle States and Maryland "The greatest vice of the American educational system is that while we have courage enough to add new things, we do not have courage to cut out the old." Here is a suggestion worth following up. The overcrowding of the curriculum is not due half as much to the coming in of new things as it is to the persistence of old things whose days have gone by and which represent simply so much waste of time and energy.

New York City invested in the last school year \$70,793,505 in education. Of this sum, \$47,000,000 were spent on the common schools, while \$8,500,000 was contributed toward secondary education and \$15,000,000 to colleges. Teachers' salaries represent the amount of \$26,500,000, an increase of nearly \$1,500,000 over the preceding year. The average cost per pupil based on registration in the elementary schools was \$37.39.

THE Board of Managers of Swarthmore College have voted not to accept the bequest of the late Anna T. Jeannes. This was conditioned upon the abandonment by the college of inter-collegiate athletic contests. At the same time it was made known that instead of being a fortune of over \$3,000,000, as was supposed, the bequest would amount only to about \$40,000.

CHINA.

Sir Frederick Lugard, the Governor of Hongkong, had a meeting at Government House to consider the possibility of establishing a University. He announced that an old member of the Colony, Mr. Mody, a Parsee bill and bullion broker, had placed the sum of £15,000 at his disposal for this purpose. Sir Frederick said he was willing to recommend the Government to provide a site, but could not go further than that, in view of the present and prospective liabilities of the Government. Personally he was very optimistic as to the success of the project, and was anxious to see it take shape. He believed that, if Hongkong could establish a University with facilities equal or superior to those at Tokio, it would attract a large number of the wealthy Chinese students who now go to Japan, America, and Europe, and would increase the prestige and influence of Great Britain throughout the Chinese Empire. To provide an adequate endowment for even the modest beginning proposed, a sum of not much less than £100,000 would be required. He invited the co-operation of both Europeans and Chinese, and appointed a sub-committee to draw up the estimates necessary for a more detailed consideration of the subject.

The Educational Review.

It is a matter for regret that the Government could not see its way to appoint as Vice-Chancellor of the Madras University one directly connected with education. It cannot be said that there are none among the educationalists in this presidency who are fitted for the place. By his attainments, by his professorial work, by his long connection with the Madras University, and by virtue of his being the head of the Education Department the Honourable Dr. Bourne is eminently fitted to be Vice-Chancellor. The sister universities of Bombay and Calcutta have had the Directors of Public Instruction in their respective presidencies as their Vice-Chancellors. If we mistake not, the present Vice-Chancellor of the University of Bombay is the Hon'ble Dr. Selby, the Director of Public Instruction in Bombay. For reasons best known to the powers that be the Vice-Chancellorship of the Madras University has become the special prerogative of the judges of the High Court. Nor has the choice of the Government from among the judges been always happy. There can be no doubt that among the present judges of the High Court of Madras, Justice Sankaran Nair is the best fitted for the place. He has served on the Syndicate of the University for not less than twenty years and as such is thoroughly conversant with the work of the University. On the other hand the judge who has been gazetted as Vice-Chancellor has had very little experience with the work of the University, and is likely to prove a mere figure-head.

We are glad to learn that it is under contemplation to create a lectureship on commerce at the Bombay University. There can be nothing derogatory in a University having a commercial side to it. It is the duty of the University to train for all the professions. The commercial profession is as essential and necessary as the medical, engineering, or legal profession. We therefore disagree with the educational journal of Bombay in questioning the appropriateness of the step contemplated by the University or the powers that be. We should even suggest that arrangements should be made to confer commercial degrees, as is done in some American universities. Commercial subjects, such as commercial geography, commercial products, history of commerce, national economics, science of finance, commercial law, are subjects which no university can afford to despise. The establishment at Bombay of a first-rate college of commerce, on the lines of the *Handels-Akademie* at Vienna, will prove beneficial not only to the chief emporium of India, but to the whole country.

Lord Curzon is credited to have recently said that "of all the institutions likely to keep young Indian students straight and to develop sobriety of judgment the hostel is the most efficacious." It would be so if the inmates of hostels had a free hand in all matters without any coercion from the outside. But very often it is not the case. These hostels are so much under the control of superintendents and managers who play the autocrat. The University and the Department frame rigorous rules to check the liberty of the students. It smacks of the Middle Ages and monasticism to have students always under surveillance. For the development of character young men must live in an atmosphere of freedom, ruled entirely by the discipline of consequences and not by the fear of rustication. In so far as they minister to

The Hostel System.

the comfort and convenience of mollusities and are capable of fostering a democratic spirit, the hostels of colleges are certainly beneficial.

At the annual conference of the National Union of Teachers of Great Britain the president made a wise suggestion concerning religious instruction in schools. He said: "Let them ensure that every child receives religious instruction on the lines which the overwhelming majority of the nation desire—the instruction being given during the ordinary school hours and, where possible, by the ordinary teachers. A conscience clause would permit parents who desired some other form of teaching to withdraw their children from the religious lesson." This seems to be a fair solution of the educational religious difficulty. This plan has been in use in Germany, where the children of the two Protestant churches are taught at school by their respective pastors, and the Jews and Roman Catholics are permitted to be absent from the "religion lesson," which is either the first or the last on the time-table. In America the system of education is entirely secular, and religious teaching is confined to the Sunday schools. We very much wish that a conscience clause is introduced into our Grant-in-Aid Code, so that students may not be compelled to attend the Scripture class in Mission institutions, which receive aid from public funds. We neither profess nor entertain any hostility to religion. We regard it simply as a personal and private matter, for the promotion of which the State ought to give no aid.

According to an American educational periodical, the following

The duties of a headmaster. ought to form the duties of a headmaster. "Instead

of frittering away time about the office, more than one half of his energy should be given to supervising in the literal sense of looking over, not overlooking, children at their work. It is for him to discriminate between children of different capacity, and advance each with appropriate rapidity to see that the lazy are stimulated, the dull are awakened, the bright are employed, the indifferent are interested, the unruly are regulated, the failures are investigated, the absentees are brought to book. It is for him to arouse the home to a full appreciation of its responsibility in the training of the children, to secure the intelligent co-operation of parents and teachers, and to ally with himself the social agencies of the community for civic betterment. It is for him to see that the school plant is kept in good physical condition, with regard to temperature, ventilation, cleanliness, and repair, to see that the teaching apparatus is on hand and in good condition when wanted, and to see that it is wanted. It is for him, with the assistance of such help as can be given to him, in the class-room and through teachers' meetings, to improve the method of instruction and of discipline, to see that the emphasis is placed upon the essentials (and this includes the essential habits and ideals of the children as well as the fundamentals of the various branches of study), to keep the sympathies and interest of the teachers keyed to the proper tension, and to bring the whole school to the standard of the best teachers in it." We do not know if we can find any headmaster in this part of India who at least approaches this ideal. Our headmasters have generally very light work, and the new Educational Rules have relieved them of all teaching work. No doubt the headmaster must have time for supervision, but he cannot properly

discharge his functions, unless he is at the same time teaching. Every headmaster should do at least two hours of teaching every day. The ideal set forth in the above extract exaggerates the functions of the headmaster at the expense of his assistants. At best the headmaster can only be a guide and helpmate to the assistant-master, and the latter alone who is in intimate contact with the child is the real teacher.

Germany is trying to realise in all possible ways the modern idea of national education. It has developed a system of continuation schools, highly advantageous to the State from an economic point of view but at the same time beneficial to the people.

The local act of 1904 makes it obligatory for all youngmen of the industrial and trading classes to attend a continuation school either in the mornings or evenings. The execution of this act in Prussia has necessitated the formation of about a thousand classes and the employment of twelve hundred additional teachers. These continuation schools now contain not less than 60,000 pupils. It may be too much to expect such a blessing to be bestowed on India by a foreign government, which is interested more in maintaining peace than in elevating the subject races under it. But those voluntary associations, which have for their aim the elevation of the country in the scale of nations, may render some service in this direction.

At the Mannheim Conference on sex pedagogy in 1905 it was unanimously resolved that sex should be taught in the later years of secondary boys' schools, although there were differences of opinion as to what should be taught,

how and by whom, and whether certain instruction should not begin some years earlier, and as to whether and how girls should be taught. Various investigators in England, France and Germany think that self-abuse is the rule among boys and that perfect chastity is the rare exception. For our country we have no statistics to base an opinion. But there can be no doubt that in a country where early marriage is the rule boys of thirteen and fourteen possess a good deal of misinformation about sex, which is likely to mislead and that there is urgent need for proper guidance. In Finland, Switzerland and Hungary instruction on sexual matters has been authorized by law. It has also been given in some of the largest German cities with the best results. Says Dr. Stanley Hall: "With the dawn of adolescence the needs of boys are several, first, to know the harmfulness of self-abuse, which is very grave, although it has been the fashion to exaggerate it. They must also be disabused of their morbid fears of being lost because of the spontaneous nocturnal experiences which quacks know so well how to prey upon. Third, they need some plain talk about the dangers of infection, both by black plague and by gonorrhea, and the enormous evils of the latter, which are only lately adequately understood. All this instruction should, to be authoritative, be given by a physician. I believe boys of fourteen need to be told, too, of the marvellous nature of the germ plasm, the most complex and highest product of the great biologists or spirit of life, and how the sexual glands in man best take care of their own functions and are no more prone to atrophy from disuse than are the lachrymal glands. They should be informed rather fully of the dangers and also the results of infection. After every



general talk there should be a very carefully devised opportunity and encouragement for personal conferences that the sexual fears that often become perfect obsessions be removed, that more instruction begin to individuals who need it, etc. To me it seems clear that all children should have some instruction in this subject suitable to their age before they satisfy the requirements of school attendance and that this should be given by qualified instructors of the same sex. Hence every normal school should train teachers in this field."

We are glad to note that, in commemoration of the Jubilee of the Jubilee Research Prizes. Calcutta University, prizes have been instituted for the promotion of research by its graduates. Out of the University Reserve Fund, a sum of

rupees thirty thousand has been set apart and called the Jubilee Research Prize Fund. Out of the income of the above fund, two prizes will be awarded every year. Each prize will consist of a gold medal worth Rs. 150 and a sum of Rs. 250 in cash. One of the prizes will be awarded for research in Arts subjects and the other for research in Science subjects. The Fellows of the Senate have the power to make suggestions with reference to definite problems which they consider to be suitable subjects for investigation. Each Fellow who makes suggestions is bound to show that it is possible to carry out the suggested research with the means available in this country. This caveat is indeed very wise. For we know that for want of a similar restriction a prize instituted in connection with the Madras University in 1901 has till now not been won by any graduate.

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EXTENSION AND IMPROVEMENT OF PRIMARY EDUCATION IN PUDUKOTA.

ON the 1st of March this year, an event of far-reaching effect was quietly carried out in the little State of Pudukota. Few who had known Pudukota as it was over quarter of a century ago would have deemed it capable of taking such a big step forward. The Pudukota of the seventies was a very backward country, some of whose villages had the evil reputation of being the nurseries as well as the asylum of wild and shiftless men who eked out their livelihood in what ways they could. Three decades have passed and the change is a marvellous one. Along with the strong arm of law to repress crime, the State has wisely called in other and more effective forces to its help. 'The school-master is abroad,' and armed with his primer is seeking to penetrate into tracts which were given a wide berth by *posses* of armed policemen. No other proof than the one inaugurated on Mahasivarathiri day is needed to show how the Native States are stirring with a new life, how vividly their rulers have begun to realise their duty towards their subjects and how keen is the desire in the minds of their ministers to keep abreast of British India—if not to outstrip it—in its march onward along the path of progress. The little State of Pudukota is fortunate in the possession of a ruler

who is endowed with a large measure of enlightenment and sympathy and who is assisted by ministers that have imbibed some of the best of the modern ideas of reform and that while caught by the passion for change are not so obsessed by it as to forget the need for caution.

It would be interesting to take a survey of the educational history of the State prior to the advent of the great measure which we propose to sketch below.

Till the close of 1884, education was in the hands of the *Pial* school-teachers and there was no control exercised by the State over it. In the beginning of the next year, a definite attempt was made to establish a sort of State control by the appointment of an Inspector of Schools and the institution of a system of aid by means of capitation grants to such teachers as complied with certain easy conditions. The control was the feeblest, care being taken to make the bait of grant as much tempting and the Departmental interference as slight as possible. No vexatious rules hampered the teacher in his freedom of choice of the text-books or the subjects for his class. With no Code to guide him but the few rules relating to the grant of money-aid, the Inspector worked on, trying to introduce a sort of uniformity in organisation, text books, and courses of studies. Under the persistent efforts of the inspecting officers, these old fashioned

schools were licked into shape and gradually assimilated to the new type. After the lapse of 15 years—and not until the experience gathered during the period seemed to inspire the necessary confidence,—the next move was made. The Durbar felt that the time had come to tighten the reins. While retaining the old system of capitation grants for such tracts as were classed backward, the authorities decided on replacing it in the other portions of the State by the Results-grant system under which grants were made payable according to the number of pupils that passed in the three R's and certain optional subjects. A simple Grant-in-Aid Code was drawn up and an attempt was made for the first time to prescribe the qualifications of teachers, the minimum number of working days for schools, etc. It must be confessed that the endeavour to raise the standard of teaching by insisting on the possession of some educational qualification by the teacher was not very successful, as almost all the schools were in the hands of men quite innocent of the sort of knowledge or training required by the rules. The Dewan, however, was firm in his resolve to introduce the new leaven and ungrudgingly sanctioned every measure calculated to improve the tone of discipline and the quality of teaching in the schools. Grants were withheld or reduced in cases where the teachers did not hold a license to teach from the Board appointed *ad hoc* from time to time. Teachers were sent to the adjoining British Training Schools to undergo training at the State expense. Sessional schools were started in the capital for the benefit of such as could not be sent abroad. It was up-hill work, for dense was the mass of ignorance and prejudice against which the authorities had to make headway. The history of the quinquennium 1901—1906 records a series of unflagging

strenuous efforts made by the Dewan ably seconded by the Principal throughout, to make education in the State schools something better than a name and the means of earning a few rupees from the Government.

Meanwhile things were taking place in British India, which could not but profoundly impress vigilant and susceptible minds like that of the Dewan Mr. Venkatarama Das Naidu ever on the alert to originate or adopt whatever might tend to the prosperity of the people committed to his charge. Educational questions were in the air during the Curzonian régime in India. Education, thanks to the policy of that gifted Viceroy, was placed among the foremost and most pressing problems of Indian Administration. Statesmen were busy with schemes for the education of the masses. The Dewan was infected with the new spirit. To his eyes the progress made in the direction of education seemed ridiculously small. The figures for 1905-6 disclosed the fact that in the 327 schools that existed in the year, slightly over 10,000 children received instruction, giving a percentage of about 2·65 of the entire population or not more than 15% of those of school-going age, as against 44·3% in Travancore and 39·1% in Cochin. The Dewan was beset with the consciousness of the utter inadequacy of the measures hitherto adopted by the State, and acting on the advice of the Principal, addressed on the 1st of March last year several leading educationists and other educated men both in the State and the Madras Presidency soliciting their opinions on the various points raised in the Principal's memorandum on the subject. On receipt of these opinions, the Dewan convened a Conference in which several important resolutions were arrived at. His Highness's sanc-

tion for the promulgation of a scheme framed on the basis of these resolutions having been obtained, effect was given to it on the 1st of March of this year.

We proceed to summarize the essential features of this important scheme—epoch-marking as we believe it will prove in the annals of the State—which was published in a series of notifications in the State Gazette.

(1) Declaration is made that henceforth instruction in all primary schools, both State and aided, shall be free. An exception is made in the case of schools situated in tracts where the Durbar believe that education is appreciated and hence people will pay for it. Even in most of these managers are required to admit certain classes of pupils free. To make good the loss they would sustain by the conversion of their schools into free ones, managers are offered a salary grant of Rs. 3 a month for every teacher, and an efficiency grant of Re. 1 or $\frac{1}{2}$ for every pupil promoted.

(2) Provision is made for the education of the children of agriculturists and artisans by the concessions to absent themselves during times of agricultural operations and to put in half-day attendance respectively.

(3) A training school is established in the capital with a trained graduate at its head for the training of teachers, and stipends are bestowed on those attending it.

(4) A revised scale of pay ranging from Rs. 8 to Rs. 16 a month according to the educational attainments of the teacher offers inducements to better qualified men to take up the profession of teaching for their livelihood.

(5) The Inspectorial staff is strengthened by the addition of 3 new hands.

Bold and even revolutionary as is the scheme, simplicity is writ large over every feature of it and we have nothing but admiration for the studied sobriety and the practical wisdom which have kept the framers clear of pitfalls and made them follow the most feasible in preference to what is most dazzling in show.

The declaration of His Highness to bestow the gift of a free primary education throughout his dominions will, we doubt not, be hailed as a boon by his poor subjects that realize the value of the gift so munificently offered them by their ruler. The present is all the more valuable as it is made spontaneously at a time when the scarcity prevailing in his territory would rather circumscribe his bounty than stimulate its outflow. The gift is brought home to the very doors, as it were, of the poor folk by His Highness's determination to establish a school in every village with a population of 500 and upwards. The needs of the agricultural population are considerably provided for in the wise concessions,—permission to recall their youngsters from school whenever their services may be needed, and the assurance that a simpler course of studies suited to their requirements is under preparation. A specially commendable feature is the enhancement of the pay of the teachers, the cry for which went up so long ago and the need for which became imperative with the demand for a better quality of instruction on the part both of employers and parents. A scale which offers in these hard times Rs. 10 a month to a Matriculate and Rs. 12 a month to an F.A. teacher resident in the rural parts cannot be said to err on the side of over-liberality. Another is the institution of a training school to give an outfit of training to

the primary school teachers. Such an institution has for a long time been felt to be a desideratum. These two measures which are ancillary to the main scheme are of such vast importance and fraught with such momentous consequences that we have no hesitation in saying that on their proper handling will hinge the success of the whole scheme. We mean that unless the pay now offered should attract really earnest and capable men to the post of teachers, and unless the training imparted in the training school be on sound and rational lines as far removed as possible from the outlandish pedantic notions of theorists on the one hand as from the useless cramming of the indigenous system on other, the whole scheme would prove a costly failure and the generous intentions of the Government come to naught. The scheme has been launched, some would say, too prematurely and venturesomely, and these will though not perhaps in a hopeful spirit, watch its career with keen interest. The conception and the elaboration of the scheme must have entailed on the Dewan much anxious thought and care, but a more onerous work will lie on the heads of the Departmental executive officers with whom will rest the working of the scheme in all its details. New schools have to be created; existing ones to be abolished or strengthened; useless teachers have to be weeded out, new and better men put in their places; new courses of study have to be drawn up and gradually introduced and teachers kept up to the mark by a strict but sympathetic round of visits of inspection. It is hoped that the officers will rise equal to the occasion and loyally and energetically work to achieve the object on which the Dewan has set his heart.

The decade during which the present

Dewan has been at the helm has been fruitful of several reforms of considerable importance. Not the least of these, while in our opinion none can add a greener leaf to his laureate wreath of fame and establish his claim more firmly to the lasting gratitude of his countrymen will be the measure which saw the light on the 1st of March 1908 and which seeks to disseminate the seeds of knowledge free and broadcast among the poor and ignorant masses of His Highness's subjects.

S. T. RAMACHANDRA SASTRI.

REPORT ON PUBLIC INSTRUCTION IN MYSORE FOR 1906-1907.

THE report of Public Instruction in Mysore and the Government Order thereon indicate educational activity and progress in all directions. Notwithstanding the fact that the province was subject to periodical outbreak of Plague and other epidemics which seriously tell upon the continued efficiency of educational institutions, the revision of the Inspectorate, the good results of both the First Grade Colleges, the good attendance at, and the healthy influence exercised by the Students' Homes attached to both the above colleges and the encouraging account of Secondary Education are noteworthy features of the year under review. Another prominent feature of the report is that the total amount expended on education increased from Rs. 13,74,931 in 1905-96 to Rs. 14,44,311 in 1906-1907. The rather unsatisfactory and discouraging report on Primary Education evokes the anxious solicitude of Government for definite proposals from the Inspector-General of Education and indeed it is very satisfactory to note that the Government of His Highness the Maharaja of Mysore have already taken the initial step of abolishing the school fees in the "Upper

Primary Classes" of village elementary schools and increasing the pay of village schoolmasters. The necessity of Revenue officers visiting village schools and taking an intelligent interest therein is indeed rightly emphasised by Government. We indeed await with no small amount of interest for the education of the masses in Mysore the results of the proposals and deliberations to make Primary Education free and we hope that the Mysore State which is reported to be distinctly ahead of British India in this matter will take the initiative. The action of the Government in making an annual grant of Rs. 3,000 in aid of Mr. Tata's Silk Farm at Bangalore is indeed admirable and deserves to be followed in those provinces of British India where the Silkwoom-Industry is feasible. In conclusion, we hasten to congratulate the Mysore Government on the success attained by its officers in their endeavours towards effecting various improvements in spite of adverse circumstances as Plague and the absence on leave of Mr. Bhabha, during some portion of the year under review, we feel no doubt that the high state of efficiency reached is due to the admirable principles of organisation introduced therein by Mr. Bhabha, the talented and energetic Inspector-General of Education. We have been long of opinion that the time has already come for such a progressive province as Mysore to have a University of its own. We hope that Mr. Bhabha will signalise his long educational connection with Mysore by making representations to the Government of His Highness the enlightened Maharajah which will ere long culminate in the establishment of a University for the Mysore State.

THE EDITOR.

MATHEMATICS.

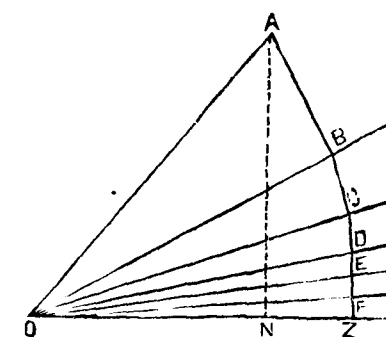
NOTES ON SOME INSOLUBLE GEOMETRICAL

PROBLEMS BY B. KRISHNAMACHARI, M.A.

The determination of the length of a circular arc or in mathematical language its rectification, and the inverse problem, the construction of an angle when its circular measure, or the ratio of the arc on which the angle stands to the radius of the circle, is given are considered to be two of the unsolved problems of antiquity, being supposed insoluble by the methods of Euclid. They are not however absolutely insoluble by his methods but insoluble only when the number of applications of the processes is limited. And though in theory the process has to be continued *ad. inf.*, yet in practice the result is arrived at very soon.

Take the first of the problems mentioned above. Suppose we are required to represent the circular measure of an angle AOZ by the ratio of two straight lines.

(1) Bisect the angle by OB and drop AB,



a perpendicular upon it.

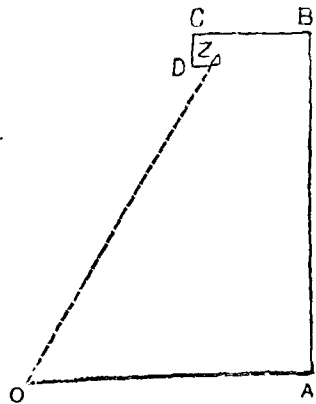
(2) Bisect the angle BOZ by OC and drop BC a perpendicular upon it.

(3) Continue this process, always bisecting the angle which remains between the last

bisector and OZ and dropping the new perpendicular from the foot of the last one.

Very soon the remaining angle disappears and the point Z upon OZ will be reached which will not move any sensibly for any further steps in the process.

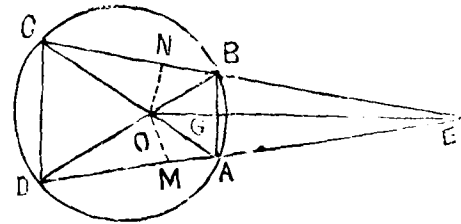
If now from A, we drop a perpendicular AN upon OZ, the ratio $\frac{AN}{OZ}$ is the circular measure of the angle AOZ.



(Given the circular measure θ , to construct the angle. Take a line OA in length unity and draw AB of length θ . OA perpendicular to it. Draw BC perpendicular to AB and equal to $\frac{\theta \cdot AB}{2}$; similarly CD perpendicular

to BC and equal to $\frac{\theta \cdot BC}{3}$ and so on. Here also the final point Z is rapidly approached and if OZ be joined it will be equal to OA, AOZ being the angle required of circular measure θ . In our figure, θ has been taken equal to 1, so that the angle drawn is a radian.

I am indebted for these processes to some notes in the 'Knowledge and Scientific News' for April 1908.



1. [KELA DEVA RAO, B.A., L.T.] The opposite sides DA, CB of a cyclic quadrilateral meet in E. If the straight line joining E with the point of intersection of the diagonals meets AB in G, show that $AD \cdot AE : BC \cdot BE :: AG : BG$.

Solution by B. KRISHNAMACHARI, M.A.

Draw OM, ON perpendiculars from O upon AD, BC.

Since the areas of two triangles are to one another in the ratio compounded of the ratios of their bases and of their altitudes, we get

$$\frac{\Delta OAE}{\Delta OBE} = \frac{OM \cdot AE}{ON \cdot BE} = \frac{OA \cdot AE}{OB \cdot BE}$$

the triangles OAM, OBN being similar.

$= \frac{AD \cdot AE}{BC \cdot BE}$, the triangles OAD, OBC being similar.

Again as the areas of triangles on the same base are in the ratio of their altitudes, the same ratio $= \frac{AG}{BG}$, whence the result follows at once.

2. [KELA DEVA RAO, B.A., L.T.] Solve the equation $(x^2 + 4)^2 (x - 1) = 4x^4$.

Solution by B. KRISHNAMACHARI, M.A.

We find very easily by trial that $x = 2$ satisfies the equation.

Diminishing the roots of the equation by 2, we get for the equation whose roots are less than those of the given equation by 2

$$z^5 + 5z^4 + 8z^3 = 0$$

$$\text{i.e., } z^3(z^2 + 5z + 8) = 0.$$

This gives three multiple roots 0 for z , the other two roots being $\frac{-5 \pm \sqrt{-7}}{2}$. The roots of the original equation are therefore

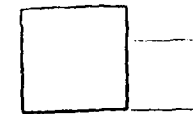
$$2, 2, 2, \text{ and } \frac{-1 \pm \sqrt{-7}}{2}.$$

QUESTIONS FOR SOLUTION.

3. [KELA DEVA RAO, B.A., L.T.] A plank of wood is 16" long and 9" broad. Show graphically how it can be cut into two pieces which will fit the top of a box 12" square.

4. [B. KRISHNAMACHARI, M.A.] (Suggested by Question 3.)

A plank of wood is of the shape



the sides of the squares being 4" and 3". Cut them in the least number of pieces to form a square of side 5."

OUR BOMBAY LETTER.

THE PROPOSED PARSI CENTRAL COLLEGE.

AT the present time, in Bombay, Parsis are discussing the pros and cons of a Parsi College. Not content with the Elphinstone, the St. Xavier, the Wilson, and the Grant Medical Colleges, the Parsi Benevolent Institutions and the Parsi Proprietary Schools, they propose to build in Bombay a Parsi Central College that will cost Rs. 25,000,000. There are about 80,000 Parsis in India, and 60,000 of them live in Bombay; and among the Bombay Parsis are found wealthy men who say:—"We are willing to give the necessary money for a Parsi Central College, if you can satisfy us that such a College is really required at the present time; and if

you can submit to us a scheme for such a College that satisfies us." The chief movers in the matter are Jehangir Romanji Petit, Jehangir Jamshedji Vimadlal, and Jamshedji Dhanjibhai Mahluxmivala. To these gentlemen Sir George Clarke, the Governor of Bombay, wrote on the 7th of June the following letter:—

"I have carefully considered the Prospectus of the proposed Parsi Central College, and I cordially agree with the general principles which it lays down.

The Parsis were quick to realize the advantages of education and to reap corresponding benefits; but, in the general recognition of these advantages which is spreading throughout India, the Community hold now stands in need of special efforts to enable it to hold its ground.

I note with particular pleasure that it is intended to make a point of religious teaching in the contemplated Institution, and to endeavour to develop qualities of character as well as of intellect. Thus only can education ensure the up-bringing of good citizens and real patriots, and I believe that such a training can best be given in a college created and managed by a community which is in earnest in providing for the higher needs—moral and physical—of its children. If the education is broad, based upon love and sympathy for humanity, I should not fear that it would lead to separatism.

Education in India leaves much to be desired, and its progress is gravely hampered by the trammels of the past. I am glad to know that, in the Parsi College, it is intended that more attention should be given to "the bringing out of the thinking powers of the pupils than to the storing in their minds of information and facts temporarily held together for exhibition in the examination hall," and consequently, valueless as aids in dis-

charging the practical duties of life. Starting with a clean slate, the college will be able to adopt the best of modern methods and to give to science its proper place in education.

If the lofty spirit which has inspired the Prospectus can be translated into action, the Parsis will in time possess an Institution of which they will have a right to be proud, and which will confer marked benefits upon their community and upon India. I warmly wish success to this great undertaking and I shall be happy if I can in any way help in its accomplishment."

The Prospectus submitted to the Governor of Bombay said:—

"It is a fact acknowledged by all who have bestowed careful thought on the subject that while the Parsee Community is to all outward appearances an advanced community it is gradually losing those valuable traits of character that have so long distinguished it as a community and enabled it to hold up its head. Few in numbers are its members, amidst the seething millions that compose its sister communities in India. If in spite of its being hitherto in the forefront, so far as secular education, intelligence and wealth are concerned, it shows such unmistakeable signs of retrogression in its distinguishing virtues it becomes our duty to trace out carefully the causes of this deplorable condition of things and to find out adequate means for their removal. If this is not done at an early date and the evil is not nipped in the bud, it will not be possible for us, few as we are in numbers, to hold for any length of time our ground as we have hitherto done, in the keen struggle for existence, with sister communities numbering their members by millions.

The history of all nations shows us that however high a nation might stand in power, in wealth, in knowledge, in intelligence and in other like resources, its downfall assuredly,

commences as soon as it degenerates in character, especially in those qualities of the heart that particularly distinguish it as a nation. In spite of all our wealth, all our glory and all our power, our ancient Persian Empire began to decline as our nation lost its ancient valuable traits of character. The downfall of Egyptian, Chaldean, Babylonian, Grecian, Roman, Turkish, Spanish and other famous Empires, ancient and modern, was due to the deterioration of those noble traits of character that were the means of uplifting them in the scale of nations.

Russia was immensely superior to Japan in population, wealth, army and other material resources, and yet her defeat at the hands of that small country was due to her being inferior to the conquering nation in patriotism, loyalty, endurance, self-sacrifice, unity and the various other high qualities that alone ensure success in peace as well as in war. It follows therefore that for an individual as for a race, success in life depends upon the building of a high, good and noble character; and any system of education that has not for its primary object the evolution of such character is not only defective but often even harmful.

For all these reasons the hour has certainly struck, when we should turn our attention to a system of education that tends above all to the development of a virtuous character in our growing youth, to the preservation and development of those national virtues that have given our community prominence, fame and high position, our benign Government has also recognised the necessity for such education, but as the evolution of character depends on ethical training and the latter can be based on no surer and more lasting foundation than that of religion, it is obvious that in a country like ours, where so many

different religions exist side by side, it is extremely difficult for Government to carry out a system that includes religious education worthy the name. The duty consequently devolves on each community to look after the moral and religious training of its children in the education that it gives to them. Some attempts have been made in our community to impart religious training in our schools; but the lines on which it has been given have not produced quite satisfactory results and radical changes are apparently called for.

It is further acknowledged by specialists and laymen alike, who have bestowed careful attention and thought on the subject, that the present system of secular education requires a radical change in its curriculum and especially in its methods, if it is to achieve the true purpose and aim of education. The present curriculum of the school course is defective, not only on its scientific side, but also in the omission of subjects like (1) Nature-study, which cultivates the powers of accurate observation and drawing of correct inferences by direct touch with the realities of nature, giving at the same time useful information of the common minerals, plants and animals of the locality; (2) Manual training, now considered one of the most important adjuncts of the education of the young, not only for the training of the eye and hands, so as to make them effective instruments of use in all the ordinary avocations of life as well as in technical industries and arts, but also for its proved influence on the powers of the brain,—broadening and sharpening the intellect, &c.; (3) Hygiene: civics, and other branches of knowledge including drawing (now taught very perfunctorily) which are useful and serviceable to everyone, whatever his avo-

cation or walk in life may be. But over and above the faults in the existing curriculum, it is in the method of teaching—the subject history, geography, arithmetic or language, &c.—that the most urgent need exists for remedying the existing defects, if education and not merely instruction is to be the aim of establishing schools and colleges. Such far-reaching, important and radical reforms cannot be accomplished by mere tinkering with the existing state of affairs, but to be really effective must be commenced entirely on a clean slate, and since it would, for various reasons, be extremely difficult to introduce complete changes, on the lines indicated above, in the existing institutions, the necessity for a model institution to serve as a centre which may gradually radiate its potent influence on all the existing institutions becomes quite apparent.

The question whether there exists the necessity for a Parsee Central College has already been widely discussed amidst the community, with the result that the necessity has been acknowledged of an institution that might turn out Parsee youths capable of fighting the battle of life by giving them physical, intellectual, moral and religious education of the most advanced type and according to the latest methods and developments of the science of education, and helping them, above all, to shine out in those beautiful traits of character, truth, loyalty, industry, enterprise, benevolence, charity and many another that have raised the Parsee name high in the estimation of all that have come into contact with that assembly.

The necessity for such an institution has been already fully recognised by Parsees and it only remains to take early steps for meeting this most crying need of the moment.

The Parsee Central College must not only be the breeding ground for useful and successful men of the world, for good citizens and patriotic countrymen, but above all for true Zoroastrians, deep into whose hearts the teachings of their noble religion and the influence of their glorious traditions shall have infused the spirit of that world-famed injunction of "good thought, good word, good deed," which is the true foundation of all morality. It is, therefore, essential so to manage the institution as to bring about these beneficent results to the fullest extent possible.

Nor let it be feared that such a communal institution like the Parsee Central College will tend to lead its children away from unity and love with their fellow-countrymen in India. Religious teaching, given on a truly broad, liberal and spiritual basis, must needs teach the root principles of the Fatherhood of God and the Brotherhood of Man, of love, charity, forgiveness and tolerance. Proper instruction in a religion that teaches "Happiness unto those of whom others are happy" cannot but bear the noble fruits of a loving, self-sacrificing, tolerant character, which alone ensures peace, good-will and happiness unto all.

The Parsee Central College must be an institution where secular education given should be of the best possible kind, where more attention should be given to the proper training and cultivating of the intellect and the bringing out of the thinking powers of the pupils than to the storing in their minds of information and facts temporarily held together for exhibition in the Examination Hall, where the physical training of youth should be systematically and scientifically carried out by means of gymnastics, drill and games and where a sound body and trained intellect

should be permeated with the noble teachings of the Zoroastrian religion, and be held at the service of a purified heart, in which self-sacrifice, love and sympathy shine out supreme to the benefit of all concerned. The institution is intended to ensure its benefits to all classes of Parsee boys and youths, to make provision not only for the boarders—one of the most essential desiderata of such an institution—but also for the day students to as large an extent as possible and beneficial, not only for the children of the rich, but also of those of the great middle class, not omitting the deserving poor of the community. The Central College should of course begin its work from the lowest rung of the educational ladder, taking full advantage of the pure and pliant hearts and minds of the young, so as not only to mould them into the lines which may gradually lead to the desired finished product, but also that the surest and robust foundation may thus be laid, capable of sustaining the loftiest super-structure that may afterwards be raised on it.

The education given at the Academy should not however be confined to the elementary stages only, but should be carried gradually to the highest collegiate courses. It should not be only purely literary or scientific, but should, as means and sources permit, be technical and commercial as well, so as to suit the requirements and temperaments of all classes of the community. It should be the aim of the College not only to provide for the education of boys, but of girls as well, on lines suitable to their own requirements. It is true that the education of girls, the mothers of future generations, under whose influence the young of both sexes imbibe their earliest and most lasting impressions, is, from that point of view, of far greater importance than that of boys, and should be taken in hand even before that of boys. But it may be that from practical considerations

of existing circumstances, the keen struggle which the boys of the community will have to enter into in the near future for the primary necessity of learning the means of livelihood, often even of bare existence not only themselves but of all those entirely dependent on them, the education of girls may have to be postponed for a time, though not for long, it is hoped, the aim of the College should thus be to provide in the best way for the wants of all and to the fullest extent possible. Whatever the lines on which the education at the College is given—literary or scientific, commercial or technical—it should be by the best and most advanced methods applicable to each so that the finished product may be truly cultured and form men and women of the best character.

For these reasons the College should not owe its existence merely to the generosity of a few wealthy Parsees (whose aid will of course be indispensable), but to the support of middle-class Parsees as well, so that the institution may be a national institution in all respects, in its origin, in its maintenance, in the youths it trains as well as in the culture it gives. It is further intended that instead of relying on paid workers alone, the fullest possible advantage should be taken of those thoroughly capable of serving the institution in any capacity, who out of love for their community and for the College should volunteer their services to this great national institution.

Its management will rest with a Committee composed of men who will devote their wealth and their intelligence, their time and their labour to its welfare, with zeal, love and sacrifice. In short, the Parsee Central College is meant to be worthy the name, worthy the fame, and worthy the great religion of the Parsee community.

Needless to add that every true Parsee should deem it his duty to lend such a promising institution his hearty support. If every descendant of the famous ancient Persians, who loves and honours his ancient nation and his noble faith and holds the name of Spitama Zarathustra, his great holy prophet in reverence, shall help the College by personal labour and by money, by his head and by his heart, if he shall sympathise with its aims, further its work and pray for its weal, success is fully ensured.

Sympathy, devotion, zeal, sacrifice and good-will guided by knowledge and experience, where these are forthcoming—and we have no doubt they will be in such a noble cause as this—then the guidance of the Holy Zarathustra shall not be lacking and the Parsee Central College shall open a bright future for the Parsees, under the blessings and benedictions of Ahurmazda, the Purest of the Pure."

Such being the aspirations, hopes and intentions of many Parsees in connection with the proposed College, it remains only to point out the objections to the scheme, voiced by the *Bombay Gazette*, the *Bombay Samachar*, and a few smaller papers. First of all they object to the letter sent by Mrs. Besant in praise of the scheme, and point out that the people chiefly interested in the proposed College are Parsee Theosophists. But *The Parsi*, which is not very favourably inclined towards Theosophists is a strong partizan of the College, it says:—"The time for the establishment of an educational centre of our own is now: Not a generation hence,

when the opportunity may be gone The Parsis must rise above the general level and maintain themselves there—otherwise they will certainly sink into that abyss which awaits a passively degenerating community. Struggle is necessary for development, and we have not even that religious persecution that has kept the Jews alive. We must seek our inspiration to struggle, then, not from the urgent spur of to-day's tribulation, but from our knowledge of the fate that may overtake us to-morrow."

Another paper says:—"What the Parsis want is not a costly College, but a large fund for helping those Parsi youths whom poverty denies the benefits of a school or college education. There are many young intelligent Parsi boys who are obliged for want of means to give up further studies after finishing their school education. Then again every year the Bombay University turns out a good many Parsi graduates in Arts. Some of these graduates are men of intelligence and ability and of promising and distinguished academic careers and who are anxious to study further for law, medicine or engineering and are prevented from doing so by want of means. The consequence is that these unhappy young men are obliged to take up some service—very often on a very low pay—and waste their intelligence and energy in toil and drudgery. Let us have a fund to enable these young men of study for higher learned professions. Again, I would ask some Philanthropist Parsi to pay a visit to one or two of the Parsi charitable schools and a glance at the boys will acquaint him with their utter poverty. Many boys of these schools are ill-fed and ill-clad and cannot even afford to buy books

or pencils. Some of these boys' parents are so poor that they have to keep their sons on one meal a day. Let us start a fund to improve the lot of these poor and unfortunate youths. I appeal in all earnestness to those Parsi philanthropists who have promised large donations towards the foundation of this College to keep their money for more useful, better, and more worthy objects.

A Parsi Central College will not be without dangers. It may create a spirit of intolerance and fanaticism in Parsi boys by keeping them aloof from Hindu and Mahomedan boys. It may break up the feeling of friendliness, good fellowship and brotherhood which exist among the Parsi, Hindu and Mahomedan boys who now receive the same education in the same schools and colleges."

Some writers advise a hostel, in a suburb, with large grounds for Parsi boys who come to Bombay for school and college education. Others declare that the Theosophists—who are evidently the moving spirits in the direction of a Parsi Central College—do not speak for the Parsi community, and may introduce into the teachings of the institutions the theory of re-incarnation. The question of a College is still being debated. Money is available, and a deputation has offered to visit the colleges and universities of the civilized world and collect information. But Parsis are still divided among themselves about the proposed institution, and many seem to think that as the present prosperity of Parsis is largely due to their adaptability, and their friendly associations with other communities, the College may tend to isolate Parsis both

socially and in business matters. A writer says:—

(1) "What we Parsis really want are Kindergartens and Primary Schools, on the true Froebelian and Pestalozzian principles, not like the present sham and showy ones in stable-rooms of hired homes, but in specially erected and suitable buildings, with all the necessary compounds, gardens and other equipments for the co-education of boys and girls, in charge of specially trained and expert lady teachers, in the heart of each large Parsi locality.

(2) A Committee of expert Parsi educationalists to fix a general course of studies for these primary schools from all points of view, physical, religious, moral and intellectual—to prepare a special series of readers in Gujarati, containing largely lessons bearing on Parsi social life—past and present, past Iranian History, exemplary biography—past and present, and moral stories based on Avestan principles—and to inspect, supervise and report on such institutions.

(3) The conversion of Sir J. J. Parsi High School into a scientific realistic department (the "Realschule" of the Germans) as the best stepping-stone to the various technical and industrial pursuits for the Parsi poor and lower middle classes, and as the best supplement to the Byramji Jijibhai Commercial School.

(4) A system of graded scholarships for the really intelligent and promising boys and girls from the poor and lower middle classes, to enable them to prosecute their studies in High

Schools and Colleges, whether Government or private, with special endowments of high scholarships for the deserving talents of the community for their post-graduate attainments in sciences, medicine, commerce and technical arts, as well as for their qualifying themselves for the Indian Civil, Medical, Engineering and such superior service.

(5) The erection of a model paying Hostel under strict supervision in a quiet healthy suburb, for well-to-do Mofussil Parsi students, with a certain percentage of free-boarderships for the deserving poor.

(6) The reorganisation of the two Avesta Madressahs, that are now starving and struggling for their existence, for the special training of the mobed class and of those orthodox laymen who prefer a regular religious education and the preparation of a special curriculum from the High School to the College stage comprising the Avesta and Pahlavi literature, the Iranian History and Archaeology, English, German or Sanskrit as an auxiliary language, and comparative Philology and Religion.

(7) The teaching and practising of our children to offer their daily prayers, as selected from Zarathushtra's own direct invocations (Jathas) to Ahura Mazda, in the language in which these little folks talk and think. This is the true foundation of a religious education. Europe did not advance till the Bible was translated into the mother-tongue, and religious as well as secular training conducted through the mother-tongues.

THE STUDY OF SANSKRIT IN RELATION TO NATIONAL PROGRESS.

Though the decadence of Sanskrit learning is rapidly taking place all around us, there is no questioning the fact that our educated men are now actuated by a stronger desire than ever before to benefit by whatever may be edifying and ennobling in our ancient literature. No doubt pundits in the true sense of the term are fast disappearing. Nobody now embarks on the study of Vyākaraṇa or Nyāya or Mīmāṃsā with the object of mastering the science by devoting himself exclusively to it for twelve, fifteen, or twenty years, as was frequently the case in former times. And scholars who can interpret and expound these sciences with an intimate knowledge of the innumerable technicalities in which they abound can be counted on one's fingers in every part of the country where they are to be met with, whereas in some parts of the country they have already been obliterated out of existence with none to take their place. While on the one hand the decay of Sanskrit learning in this sense is a patent fact, on the other hand no one can fail to be struck with the amount of interest that has been awakened in the minds of educated Indians in the past literary achievements of their forefathers. The heart of every Hindu is filled with patriotic pride as he realises in its fulness and contemplates upon the eminence attained by Indo-Aryans in the various departments of learning and especially in Metaphysics and Philosophy, at a time when the leading nations of the present day lay yet unborn in the dark depths of a dim futurity. In America, the reception given to the teachings of Swami Vivekananda and others that have followed in his wake may justly raise in one the hope that our Vedānta philosophy is destined to carry solace to many a troubled mind in that part of the world. There again, the profound impression created by Mr. P. Ramanaṭhan,

Solicitor-General of Ceylon, among high literary circles, by his interpretation of Christian scriptures in the light of oriental philosophy, cannot but lead one to the conclusion that notwithstanding all that the East has learnt and is yet to learn from the West, she has, in her turn, a message to impart to the West. In our own country, the immense popularity which the Bhagavad Gita has come to enjoy in recent years and the avidity with which every section of the Hindu community has begun to pore over its contents may safely be taken as an index of the eagerness of the people to lay to heart the teachings enshrined in their ancient scriptures—nay, to find in them lessons for their guidance in the struggle for a higher and truer national life upon which the country has just entered. Though the learned few have always held in the highest veneration the imperishable "Celestial" song, it is only within recent years that people absolutely unfamiliar with the orthodox modes of interpreting it have commenced to read it for themselves in Sanskrit or oftener in English or one of the numerous vernacular translations.

This interest in the past of India, this longing to resuscitate whatever is inspiring and soul-stirring in the ancient literature and to profit by it may be regarded as one among the many factors of progress making for national advancement. And the object of this paper is to point out, if not to establish, that it is by no means the least important or potent of these factors and that it behoves all those who are working for the regeneration of our mother-land to take note of this noble, nay holy, impulse and so to foster and regulate it as to turn it into a bond of union between all those subjects of His Majesty's Indian Empire who constitute the Hindu community. For, the importance of language as an instrument of national unification cannot be easily exaggerated. We all know how those who use the same mother-tongue are drawn

towards each other by a sympathy, as strong as it is natural. The first and foremost object of a language is, of course, to serve as a vehicle of one's thoughts, as a medium of communication between all those who speak that language. As even the humblest of human beings have thoughts to convey to others, however few, simple and crude they may be, this may be regarded as the most elementary, though at the same time, the most indispensable function of language. But every well-developed and cultivated language has a much higher purpose to serve—a far nobler function to fulfil. It has to kindle worthy ambition: it has to implant noble ideals. It has to impel those who drink at its fountain to patriotic deeds and acts of heroism, sustaining them with its consolations in the hour of defeat and calling forth in them becoming humility in the hour of triumph. Its beneficent and wholesome influence must be felt alike in the sunshine of prosperity and in the darkest moment of adversity. To us Hindus, such a language is Sanskrit, though it has for centuries ceased to be the mother-tongue of any of us. The English language has constituted itself to the educated Hindus all over India a very convenient means of communication with one another. And I am quite alive to the fact that it is mainly because we have been nurtured in the lap of that noble language and sucked at her breast that there have been roused in us all those longings and aspirations that have launched upon that career of national regeneration which, we all believe, has been inaugurated. Yet I venture to maintain that so far as our national regeneration is to depend upon the animating power of any language, that power must emanate from the Sanskrit language—reputed to be the language of the gods, held in adoration by the learned as well as the ignorant, beloved alike by those who are privileged to study it as by those who are forbidden to pronounce a syllable of it and cherished by all as the repertory of the

grandest truths according to which man has to regulate his life here and prepare himself for the hereafter. As for the vernaculars of the country, they have hitherto served merely as media of communication, and the people at large have never been conscious that they were intended to answer any other purpose. They have scarcely had anything like a literature of their own and the works produced in them have either been translations of the Sanskrit epics or modelled upon well-known pieces of composition in that language. Their grammar and prosody have either been directly borrowed from the *mātrībhāṣa* or have been constructed on the basis of its grammar and prosody. As to *Alaṅkāras* or figures of speech, the treatises in the vernacular languages dealing with them have all been adaptations of celebrated Sanskrit works on rhetoric. This is true not only of the languages of northern India and Maharatti which have all been derived from it, but even of the Dravidian group of languages, supposed to belong to a different family. Speaking of the Telugu language, I may say that the only comprehensive work on Grammar it possesses is Chinnayya Suri's *Bala Vyākaranam*—a work founded entirely on Panini's *Ashtādhyāyī* as arranged and expounded by Bhattoji Dikshita in his monumental treatise on Sanskrit grammar known as *Siddhantakaumudī*—so much so that it can best be understood and appreciated by only those who have made an intimate study of *Siddhantakaumudī*. It is also common knowledge that the classical works in the vernacular literature of this country can be efficiently taught only by such scholars as are good Sanskrit Pandits. These observations make it clear that though Sanskrit ceased to be a spoken language so long ago as about the third century B. C., it has all along remained the literary language of the Hindus whereas the Vernaculars have, as spoken tongues, furnished the means of communicating to one another the commonplace thoughts con-

cerning the daily wants and ordinary purposes of life. I do not forget that in Bengal a mighty effort has been made and made with commendable success to create a literature for the vernacular of that province; nor do I ignore the fact that within the last few years a movement has been set on foot in our own provinces the object of which is to place, in course of time, in the hands of the vernacular-reading public, writings embracing the various kinds of knowledge which, as pointed out by Herbert Spencer in his work on "Education" are respectively to prepare mankind for direct self-preservation; for indirect self-preservation, for parenthood, for citizenship and for the miscellaneous refinements of life. But to this day the utterance of words in no vernacular language is calculated to rouse the emotions or to touch a tender chord in the inmost depths of the heart. Sanskrit, through all the centuries that have rolled by since it ceased to be a spoken language, has, under the guiding hand of a Providence which rules over its destinies, successfully held its head aloft, enjoying unabated supremacy, and the singularly high position implied by the halo of sanctity which, in popular imagination has always surrounded it, has not been so much, as approached by any of the vernacular tongues.

This being the relative position of the vernaculars and the Sanskrit language in this country, in advocating the study of Sanskrit as a means of national unification, I trust I am not asking you to pursue a mere phantom. The proposal, though it may appear to be somewhat bold, is neither impracticable nor likely to prove unfruitful. For making out this position, it is necessary to take a retrospective view of the services, which Sanskrit language and literature have hitherto rendered to this country in the past and estimate the part that they have played in the economy of the Indian society and in the evolution of the type of civilization which we find developed among us. In other words we shall have to

trace the spread of what I would call Sanskritic thought and culture through the whole country and shew how that thought and culture has filtered down to the lowest strata of Hindu society—nay even to those aboriginal tribes who have never been really brought within the pale of the Hindu community.

Recognising, as we must, the undoubted fact that this land of ours has always been cut up into a number of small kingdoms with no central government exercising any direct effective control over them and with no other political force to bind them together or to weld them into one harmonious whole, we are yet confronted with the phenomenon that, from time immemorial, throughout the Bharatavarsha, the same social institutions have prevailed, the literary tastes of the public have been the same, the same superstitions and prejudices have influenced the popular mind and the religious beliefs and aspirations of the people have in theory been grounded on the same basic principles and in practice assumed more or less the same shape.

The Veda has, through all the ages, maintained its ascendancy over every other kind of knowledge—spiritual or secular. Throughout the vast continent of India every Brahmin, be his vernacular what it may, acknowledges his allegiance to one of the Vedas and the ritual at all the ceremonies which he has to perform is regulated by the *sūtram* appertaining to the particular Veda which claims him as its votary. At these ceremonies, Mantras from the Vedas are recited and at the Yagams which are still common enough in this country, though by no means so common as before, all the audible utterances are from one or other of the Vedas. The powerful hold which the Veda, as such and apart from its apparent or esoteric meaning has on the minds of the people is illustrated by the high measure of respectability so freely and ungrudgingly extended to Vedic scholars, i.e., those who know the Veda by heart

and can repeat it from memory, albeit they may not understand a syllable of it and albeit the crass ignorance under which they may labour in regard to matters with which a modern school-boy in the primary classes may be perfectly familiar. A Brahmin from the Punjab and a Brahmin from the South Canara might not be able to exchange a word with each other by way of ordinary conversation: but if they met for worship at the temple of Rameswaram or of Kasi Viswanath, the identity of the Mantras that would have to be uttered, of the Sahasranamams that would have to be recited and of the ritual that would have to be observed by them in the presence of the idol would mark them out, to an outsider who noticed them together for the first time, as people of the same country engaged in common religious worship. And if perchance all of them happened to attend a marriage at the place and had to bless the married pair, the words of blessing they would have to pronounce would be identically the same: or if during their stay there a Kalakshepam was performed, and passages read and explained from the Mahabharata, the Bhagavata or the Ramayana, then these Brahmins would follow the performance with the same feeling of devout exultation or concern—be the subject of exposition what it might—the heroic deeds of Bhima, the youthful pranks of Krishna or the voluntary exile of Sita accompanying her beloved husband to the forest. The Brahmins themselves might not inter-dine with each other and even the remote possibility of intermarriage into one another's families might not enter their head, but all the same the community of feeling engendered in them by the consciousness that they all professed the Veda and owed allegiance to the same sacred literature would draw them together and operate as a strong bond of fellowship between them.

The Smritis and Puranas have likewise been instrumental in unifying social life in India. Though

they are little read nowadays, an examination of their contents will show that the whole of our social fabric is reared upon foundations that lie imbedded deep in those writings. There is no conscious observance of the four Asramas at the present day but to the Hindu as he passes through the various stages of life—from youth and manhood to mature age and from mature age to the declining years of life, the predilections at each stage of life take their color from the injunctions laid down in the Smritis. Even now how natural is it for a Hindu to think of abdicating all influence in the family circle as well as in society, if possible, in favour of a grown-up son, especially when he thinks that the son will worthily fill his place? Don't we, even in the present day, come across Hindu fathers who having amassed a fortune—all by the labour of their own arms and the sweat of their own brow—yet willingly place their riches at the disposal of their children, reserving for themselves merely a modicum of their wealth and go about on pilgrimages, as they feel the weight of years coming on them—as in fact that period of life is reached by them which is described in the Smritis as *Vānaprasthāśrama*? Take again our notions of charity and public beneficence. The feeding of Brahmins or other people in large numbers on important auspicious or inauspicious occasions, the sinking of wells, the digging of tanks, the establishment of choultries, the founding of Vedic Pathasalas, the construction or repair of temples—forms of charity still very common in our country—where are these enjoined if not in the Puranas? Even Hindus who daily practise these forms of charity may not know where a particular form of charity is prescribed or what the degree of merit assigned to it is. Still these forms of charity spontaneously occur to them, the fact being that the teachings, recommendations, and admonitions contained in the Smritis and Puranas have, in course of time, become part of the mental and

moral equipment of all the members of the community, whether according to present day notions they are educated or uneducated. Take, again, the thousand and one *Vratams* which our women—Brahmins or non-Brahmins—are so fond of performing. Whether they are meant to bring in an abundance of worldly possessions or to avert widowhood in this or a future birth or to secure salvation, they are all traceable to the Puranas where examples are given of human as well as superhuman beings who, by the performance of such *Vratams* were enabled to attain supreme worldly happiness on earth and the highest beatitude in heaven.

As regards the Epics of India—the Ramayana and Mahabharata—I do not know that it is possible to employ the language of hyperbole in speaking of the influence that they have exercised upon the society in general and individuals in particular, during all the centuries these compositions have been known in this country. Not that the literary merit and the poetic excellence of these works or portions thereof have been appreciated except by the learned few; but the stories related in them, the heroic deeds which are there recounted and the view of life presented therein have so engrossed what I may call the national mind that it may safely be asserted that these epics have, as it were, moulded the life of the people and guided their aspirations. Where is then the village in India in which these works have not been read and explained to the people—perhaps times without number? Amidst the mass of ignorance that prevails in this country, where even to this day the capacity to read any language at all is confined to such an infinitesimally small fraction of the population, is it not passing strange that the stirring events recorded in these two epics and the exciting scenes depicted therein are known and known familiarly to such a large percentage of persons of both sexes and of all ages? The thousand and one ways in which the Ramayana, especially, enters into the

daily life of the people do not need to be detailed to an audience like this. The Bhajanakutams that are such a familiar sight in Indian villages as well as towns, the celebrations connected with Srirama-Navami and the ever-increasing number of pilgrimages to Rameswaram undertaken by people of all classes and of all denominations are but a few of the innumerable proofs that we have, bringing home to the mind, how the spirit and the substance of Valmiki's immortal composition have woven themselves into the very essence of our national being. But it is not merely the uncultured imagination of the illiterate masses that has been attracted by these Epics and the portentous events narrated in them. The measure of influence that they have had on the development of Sanskrit literature, judged by the mass of works that they have called into being, is in itself certainly astonishing. The number of poets whose genius has been stimulated by these Epics and who have drawn their inspiration from them must be very considerable indeed. A very casual investigation made by me within the last one or two days has brought to light the fact that there are at least 35 authors whose works are based upon these national poems, some of these works having taken the form of dramas and others that of Kavyas. And without disparagement to the unique poetic imagination and genius of Kalidasa which have furnished to us works which must remain to the end of time, it may be observed that without Valmiki we might not have had Kalidasa and that but for the Ramayana of the former even the mighty genius of Kalidasa might not have been capable of such an achievement as the Raghuvamsa that we have. The influence of these Epics upon the Hindu community is thus as varied as it is profound and to this day it is an undoubted living factor in the daily life and avocations of the people. I thought that amidst the stress and strain of present day life, the practice of writing down Rama's name a crore of times and present-

ing the writing at the shrine of Rama at Bhadradri, as a humble offering, had fallen into disuse. But just the other day surprised to find a client of mine scribbling something very diligently in a microscopic hand as I happened to inquire what it was, what could it turn out to be but *Ramakoti*?

The Vedas, the Smritis and Puranas and the Epics have thus played no small part in moulding the life of the community in this country and in determining the direction of their activities. But it is not so much to these that we owe the type of humanity that Hindus are supposed to represent and the kind of civilization which is considered characteristic of them. Much as the Veda has influenced us, we have been influenced much more by the Vedanta. If as a nation we set little store by the achievement of mere worldly eminence, if at no time in the history of our country we have been roused to political activity by love of independence or of conquest, if we have been led to look upon life as a mere passage from one stage of existence to another, if the notion has been borne in upon us that this world is an unreality and a delusion, if we have all learned to cultivate a spirit of repose and contentment awakening in us no longing to win spurs in the battle of life by looking upon our existence on earth as a field for perpetual strife and struggle, if placing strict restrictions on the ambition of the individual as well as of the society we have been content to maintain social order confining progress within prescribed and very narrow limits; how have these national characteristics been produced but by the dissemination of the spirit of Vedanta? Do we not likewise owe to the working of the same spirit on the national mind, the domestic virtues and the gentle graces of character in which we are supposed to excel so many foreign nations. The spirit of charity so universally prevalent among us is another result of the beneficent operation of the teaching embodied in the Vedanta. In

this country, rather than care to produce in abundance of worldly effects, we have cultivated the spirit of sharing freely with others the little that each one of us may have; rather than bring about social disorder in the form of nihilism, anarchism, &c., by setting up before each individual the ideal of unlimited possibility of social and material elevation for himself, we have by chalking out beforehand a course of life for each individual reconciled him to his lot in life repressing ambition and the spirit of emulation—those fruitful sources of social discord. Intellectual excellence and spiritual worth have been the standard of merit in this country and they alone have afforded the test of social status and respectability and happily never have we recognised or acted up to the doctrine that rank is but the guinea's stamp. Kings and potentates prostrating themselves at the feet of poor but learned Brahmins and Brahmins seeking the company of saintly Sudras, Muhammadans and even Pariahs believed to be the repositories of spiritual knowledge are not unfamiliar phenomena in this country. Spiritualisation of the mind has always been regarded in this land as the *summum bonum* of life, and we have ever been taught to care less for here and more for the hereafter.

Thus the social life that we lead, the customs that are in vogue among us, our intellectual tastes and aspirations, the spiritual longings which animate us and the view of life that saturates our whole being are all but the reflex of the Sanskrit thought and culture underlying the various compositions passed in review above. It is by no means right to suppose that this thought and culture and the notions of life reflected in them are confined to the Brahminic communities of India. So far as the effect on the national mind is concerned their power and influence have undoubtedly been co-extensive with society. You are probably aware that even among Pariahs there are people that can regale

the members of their community with stories from the Ramayana and that can enact scenes from that great Epic as well as from the Mahabharata and the Bhagavata. It is also well-known that there are, in every part of India, Muhammadans well-versed in Vedantic lore and commanding as much esteem and reverence as Hindu sadhus. As to the philosophy of life that moulds the aspirations and shapes the activities of Hindus and fixes for them the ultimate goal of existence, the beggar in the street is as much imbued with it as any the most skilled disputant who can carry on a learned argument on the aphorisms of Vyasa as interpreted by the different schools, headed respectively by Sankara, Ramanuja and Madhwa.

Regarding the penetration to every nook and corner of the country of what I have called Sanskritic thought and culture, the most remarkable thing to be noticed is that it has thus spread not by virtue of any motive power supplied by a central government which was anxious to see it spread throughout the length and breadth of the country. How exactly the civilization embodied in Sanskrit learning and literature, starting as it did from somewhere in the North-West of India reached the remotest parts of Bharatavarsha and gradually permeated the whole structure of Hindu society and even radiated to the other communities in contact with it is a question, to which, so far as I know, no historian of India has yet furnished a direct answer. Buddha though he had a message of peace and good-will to deliver to the whole Indian people, far from elevating Sanskrit to any higher position than it had hitherto occupied commanded his disciples to teach in the dialects of the people and thus contributed if at all to its decline. King Asoka who in the third century B.C. strove to teach his subjects the love of man and beast and to instill into them the principles of the universal religion of humanity, had his edicts promulgated in the various local dialects of the time. The work of Sankaracariar only tended

to make the study of Vedanta a highly intellectual study capable of being resorted to by only those whose mental faculties were properly disciplined and developed.

The Emperor Akbar instituted a system of comparative study of religions but there is no reason at all to suppose that he extended State help to the dissemination of Sanskritic thought and culture. Yet the fact remains that this culture and thought by the operation of some agency the exact nature of which we are not now able to determine travelled from one part of the country to another until as time progressed it embraced in its range the whole of the Indian continent and all the communities inhabiting it. The only possible hypothesis on which this striking phenomenon can be explained is to suppose that at some very remote period to which no extant records can take us back there must have been a grand movement to carry to every community and to every individual of it the spirit of the best and highest teaching then known to the cultured world of India. And if we may be allowed to make a surmise as to the cause from the effects produced, the conclusion seems to be irresistible that at some bygone period a movement must have been set on foot deliberately and on such a scale as to justify its being characterised as national to imbue the mind of each individual with that view and those notions of life which one gathers from the body of Sanskrit learning and literature that have come down to us. There is no gainsaying the fact that the movement has been eminently successful in bringing about the desired consummation, and we need adduce no further proof in support of the statement, than the universal prevalence among us of those defects of character which are responsible for our falling so hopelessly behind in the race of life in competition with the vigorous enterprise-living and wealth-seeking nations of the West. It follows that Sanskrit is no dead language in this country except in the sense that it no longer is employed as a means of communication of thought for the

every day humdrum purposes of life. The study of the language is still pursued by thousands of young men in this country who are impelled thereto not by the spirit of antiquarianism or the hope of reward but by a sincere belief that it will impart to them the only knowledge worth acquiring. How can you call such a language dead? Not a single day of the life of a Hindu passes without his having to perform a ceremony or offer a prayer necessitating the employment of that language. How can a language which so to speak, enters into the daily needs of life be spoken of as dead? It is directly or indirectly through the instrumentality of this language that the social recreations and religious and spiritual requirements of the people are supplied. In the field of religion, in the domain of philosophy and in the wide region of the sacraments of life, its chastening influence, its sanctifying power and its quickening effect are still felt: How can such a language, so instinct with life, exercising such a living power over us, be characterized as dead? Sanskrit is no more dead with us than our instincts and national characteristics are dead. Such being the potency of the Sanskrit language not only over the Brahmins but over the other sections of the Hindu community, it will be un wisdom on our part not to avail ourselves of the services of such an instrument of national unification, if there is reason to believe that it will serve that purpose notwithstanding the great change that our society has undergone under the solvent influence of Western civilization, and notwithstanding the variety of new aims and objects towards which we are called upon to direct our efforts in order to realize the dream of an Indian Nationality. I do not advocate the study of that language, in the hope, that it will enable us to develop the mineral wealth and the material resources of our country. I do not advocate the Study of Sanskrit in the hope that that will lead to the industrial regeneration of India and bring into existence in our country all those arts and mechanical pursuits, on which the commercial

greatness and the general prosperity of the leading European nations have been built up. Nor do I advocate its study, on the ground, that thereby we shall be able to build up a good physique and become a nation of warriors. Still, I maintain that the utility of the study of this language in the making of the future Indian nation can neither be ignored nor despised. The awaking of a national consciousness is well-nigh impossible without a common consciousness of a worthy past. If this is an essential element of Nation-Building so far as the Hindu community is concerned, how can such a consciousness be roused except by placing before the public at large all that is great and good in the past literature of our country. Though Sanskrit thought and culture has, from time immemorial till now, influenced society and moulded the life of the people, any intelligent study of the works in which it is embodied, has been confined but to the few. And if there is anything at all in Sanskrit language and literature which is worthy of preservation and which you cannot afford to lose, whatever may be the scheme of national building which we may ultimately pitch upon and adopt, the time has arrived for bringing all that out and making the community at large thoroughly conversant with it. What I mean is this:—We are supposed to be sadly deficient in the virtue of patriotism, and it is this deficiency that is supposed to account for the unsatisfactory manner, in which we discharge the duties of citizenship and do our duty by our country. If in our ancient writings, there is anything at all regarding the virtue of patriotism, the passages and texts relating to the same must be brought out and widely published, so that young and old may become equally familiar with them. Apart from the Sastraic prohibition on foreign travel, we are believed to be a home-sick people little anxious to avail ourselves of the benefits of travelling even within the limits of our own country. If the advantages of travelling are set forth in our own books, and travelling is recom-

mended as a means of liberal education, the passages bearing on the subject we shall do well to teach to the rising generation so that they may grow with the notion—a notion imparted through the medium of our own language—that travelling is a necessary complement of one's education. Whatever domestic or social virtues we possess, we are practising by force of habit and by the operation of the principle of heredity; and there is little consciousness among the people that those virtues have been enjoined on us by our scriptures and sacred writings. As the English education is the only real education that our youth are having, all virtues, from the humblest domestic ones to those teaching the highest kind of self-sacrifice and patriotism, are taught to them through the medium of a foreign language and this is apt to engender the notion that even the commonest duties of life are not prescribed for us in our own writings. This, to me, is indeed a very regrettable state of things. I am decidedly of opinion that if moral as well as religious precepts are imparted through the medium of a language, which has already a hold upon the minds of the people, and which has holy associations clustering round it, the effect will be much greater than if they are enforced through the medium of an alien tongue. It seems to me to be of the utmost importance that such moral precepts as "Speak the truth," "Be respectful to your parents," "Be kind to the mute creation," "Do not be a coward," should wherever possible, be taught to the young, couched in the language which we have all learned to look upon as a superhuman tongue, "divinely bestowed on man." The infant mind trained in this manner will learn to hold the past in due reverence and if such training is imparted to the youth throughout the country, the rising generation will grow with a consciousness that we have had a worthy past and broad—based upon this consciousness can be raised the edifice of the future Indian Nation. In course of time, these youths, when they grew into manhood, will read with a

feeling of National pride the classical works of Sanskrit literature—the Ramayana and the Mahabharata, the poems of Kalidasa and Bhavabhuti and such portions of our Puranas as are edifying and are suited to the present times and tastes. About two years ago, Mrs. Annie Besant delivering a lecture at Calcutta on "The need for National Universities in India" put to the audience the question: "Why should you read Shakespeare so much better than Kalidas? Why should you study Keats, Shelley and other English poets instead of the poets of your own country?" The question would indeed occur to every sympathetic foreign observer of Hindu society. If we had anything like a national literature, why should we not study it and why should its cementing power be allowed to run to waste? The prejudice against the sections of the Hindu community other than the Brahmins studying Sanskrit has been all but worn away and Pundits are now easily available to teach Sanskrit and the holiest writings in it to non-Brahmins. Every educated Hindu need not aim at becoming a Pundit. This is neither practicable nor profitable. But if every educated Indian could read and understand for himself the epics—the language of which is very simple indeed—and appreciate Kalidasa, the acquaintance with the Sanskrit language that this would imply would be a guarantee that he would be able to keep himself in touch with whatever is wholesome and edifying in our ancient literature and take a just but discriminating pride in our past. This, I venture to think, would be a great national asset and as the acquisition of it would be a distinct step gained in the march onward towards the attainment of the national goal, it is incumbent upon us to see that it is acquired. We suffer from grave defects of national character and our progress is hindered by crying social evils and abuses. I am aware that these defects, evils and abuses have to be removed before we can set out on the march onward in the hope of reaching the millennium.

The actual social practices that have come to be in vogue among us are greatly at variance with the spirit of our highest religious teaching and philosophy. While our scriptures lay down most unmistakably that each individual has to work out his own destiny and salvation, freedom of individual action has virtually become unknown among us. Whereas it is proclaimed in the Gita that the wise man knows no distinction between the elephant and the dog, between the learned Brahmin endowed with all becoming virtues and the pariah who eats dog's flesh, the actual framework of society belies that our institutions have been conceived and moulded in this spirit. The duty of work and activeness is so strictly enjoined on us that wicked actions and villainous deeds are said to be preferable to gross inactivity and idleness; yet a sad and mistaken belief in fatalism has led to indolence and love of ease becoming the rule among us. In order that the best that is in each of us may come out, the change that we should seek is, in the eloquent language of the late Mr. Justice Ranade "a change from constraint to freedom, from credulity to faith, from status to contract, from authority to reason, from bigotry to toleration from blind fatalism to a sense of human dignity."

This change is necessitated by the fact that our society has till now been moving along very narrow grooves. Our law-givers did not, when framing laws for us, take sufficient note of the ever progressive character of man and of all human institutions. Our social system was not founded upon the principle that society must be so constituted as not to withhold from any member the right to make the best of his talents opportunities and position. While the removal of these defects should be the main object to which the efforts of all earnest patriots should be directed in the immediate future, it should also be the endeavour of all those who have the sincere well-being of our country at heart to see to it that in the disruption that must follow as a necessary preliminary to the rejuvenation of society

we do not allow to be involved in the general ruin those inestimable virtues which have proved to be the salt of the life of our community and which must, if our society is to be re-constructed on right lines, continue to form an integral part of our mental and moral equipment. If it is impossible for us to rise except by rooting out of existence people lower than ourselves in the scale of civilization, if we cannot cultivate love of our own country without at the same time conceiving bitter hatred of other countries and races, if respect for our own rights necessarily involves, and is but a counter-part of the most uncompromising and ruthless disregard for the just rights of others less fortunately conditioned than ourselves, if, in fact, the future Indian nation is going to repeat, in some distant part of the world which circumstances may compel it to colonise, the scenes which are being enacted in the Transvaal—if this is to be the destiny of our race, woe be to all our attempts at national unification and regeneration. Sanskrit thought and culture if permitted to chasten our ambition and regulate our material progress will, I believe, prevent civilization from degrading itself into the mere apotheosis of power and money, which it is, in America and in most of the European countries, as pointed out so forcibly by Mr. Ameer Ali (late a Justice of the Calcutta High Court) in his recent article contributed to the current number of the "Nineteenth Century and After," under the name of "The anomalies of civilization—A Peril to India." The "ape and tiger tendencies" which according to Huxley characterised the primitive man still constitute such a predominant element in the militant aggressive spirit of the westerns that individuals there have been seized with an unsatiable love of money and power and states with morbid earth-hunger. It is this peril that we have to guard against and at the present stage of our national progress it seems to be imperative that things must be so ordered that we shall not have the need to face such a peril. A right understanding

of the spirit of our religion and philosophy will, it seems to me, afford the necessary corrective of any tendency in the ambition which goads us to achieve greatness and eminence as a nation to bring about in the long run the state of things above described. We shall not indefinitely multiply our wants. The unlimited seeking of wordly pleasures and the cultivation of an unbounded capacity for enjoying earthly comforts shall not be made by us the sole business of our life. Material progress with us shall not mean the eternal conflict between capital and labour and the bringing about of a state of existence under which every man and woman would have to work at high pressure for fifteen hours a day in order to keep the body and soul together.

Prof. Max Muller says: "The Aryan man who had to fulfil his mission in India might naturally be deficient in many of the practical and fighting virtues, which were developed in the Northern Aryas, by the very struggle without which they could not have survived. But his very view of life, though we cannot adopt it in this northern climate, may yet act as a lesson and a warning to us, not for the sake of life—to sacrifice the highest objects of life." The same writer also observes: "Are we to have no rest here, but to be always toiling and building up our own happiness out of the ruins of the happiness of our neighbours? And when we have made our home on earth as comfortable as it can be made with steam, gas and electricity, are we really so much happier than the Hindu in his primitive homestead." What I am anxious about is, that the view of life presented in our religious and philosophical teachings should never be lost sight of and that the simple temperate habits of life which are a precious heritage to us, ought not to be given up and that both must be allowed to serve as beacon-lights to guide our path aright, in the march onward for the achievement of political independence and national greatness. As has

been pointed out by Babu Bepin Chundra Pal in a masterly address delivered by him on the Indian National Problem which on account of its depth of erudition, profundity of thought and practicality of suggestion deserves to be read, re-read and pondered over by every Indian patriot, the conception of the absolute supremacy of the spirit over both animal instincts and natural forces is the highest note in the Hindu culture and civilization and the Hindu Social Conception is that of duty as the regulating factor in social life and not of Right. In order that these landmarks may not be effaced out of existence and that the civilization that we are to develop may not be an exotic growth, it is essential that the sublime truths of our religion and philosophy must be rationally appreciated by us Hindus as a nation. This involves the necessity of our encouraging the Study of Sanskrit from a somewhat different point of view to that which has hitherto preserved the study of that language among our own scholars and among oriental scholars of the West. From the Vedas, from the Upanishads, from the Smritis, from the Epics and from the Puranas passages inculcating virtues—be they the humble virtues the practice of which will secure peace and harmony within the family circle or the higher virtues of patriotism, or self-sacrifice for the sake of the cause of one's country or the subordination of private interests to public interests—must be extracted and every Hindu school boy must be made to get them by heart. The language of these passages as well as their meaning will be simple and the inclusion of this course of study in any scheme of national education cannot seriously add to the task of either the teacher or the taught. In the Ramayana and the Raghuvamsa—two poems of of reasonable dimensions which can be easily mastered by any one possessing elementary knowledge of Sanskrit—how much is there by which the mind can be elevated and the soul stirred? Has the beauty and pathos of Valmiki's verse ever been excelled in any language? Could more fascinating pictures of the ideal Hindu son, wife, brother and servant be drawn by anybody? Have the heroism of self-sacrifice and the true

dignity of a proper sense of duty ever been brought out more forcibly than in the dialogue between king Dilipa and the lion in the 2nd canto of the Raghuvamsa. Could a more sublime prayer be conceived than that which Kalidasa puts into the mouths of gods when they are made to approach the god Vishnu and importune him to incarnate for the purpose of conquering Ravana? The naturalness and the simple beauty of the scenes of Sakuntala and the exquisite charm of its language have won for it world-wide celebrity and should it not be considered a grave defect in any educated Hindu not to be able to refer to famous passages in it with patriotic pride? Alike for sentiment and language, could anything more dignified and majestic be imagined than the verse in which Dranpadi addresses the Pandava brothers as well as the other persons assembled at the great Sabha where the Vastrapabaranam took place? Has woman ever addressed to man more spirited verse than does Dranpadi in Bharavi's kiratar-juniya when she accuses Dharmaraja of want of manliness and of indifference to the interests of himself and his brothers? Has the need for the subordination of a king's private interests and comforts to the interests and happiness of his subjects anywhere been more tellingly and impressively depicted than in Bhavabhuti's Uttararamacharita? If educated Hindus brought together so often by reason of common political grievances, economic wants and social drawbacks could whenever they met realise their oneness in their allegiance to a common literature, religion and philosophy or what I have called the Sanskritic thought and culture, how much more closely would they feel themselves drawn together and what a silken bond of union would it be between them? Our women too—what a wholesome and edifying recreation would it be to them if they could read and appreciate a work like the Ramayana in the original Sanskrit? For the purpose for which I am advocating the study of Sanskrit at this juncture in our country's history, the publication of a work like Mr. V. Krishnaswami Aiyar's Arya-charitram must be a welcome measure indeed.

In that book there are a number of stories taken from the Mahabarata and the principal puranas and the stories selected are such that each of them brings out the potency or illustrates the utility of virtues such as Truth, Character, Charity, love within the domestic circle and towards dependants and so on. In the book, there is at the end also a summary of the Ramayana in, however, Valmiki's own verse. In the preface to the work Mr. Krishnaswami Aiyar says "The stories of heroes and martyrs, of sages and saints are the necessary fuel to the flame of national life and national enthusiasm. India has great reason to be proud of her past, for men and women have been born in the course of her long and ancient history whose feats of arms, whose love for humanity, whose ideal lives and whose splendid self-sacrifice have been unto this day a lesson to the world. We Indians have every cause to cherish them and in the love of their greatness and their goodness to kindle in every Indian breast a new longing for national unity as a foundation on which may be built a new greatness." It is from the point of view indicated here that I advocate the study of Sanskrit by the Hindus as a nation.

I do not forget that what we are all striving to bring about is an Indian Nationality and of that Nationality the Hindus can form but a section (though a considerably large section) and that the study of Sanskrit advocated by me as a means of national unification can be pursued, if at all, only by the Hindus. But as has been observed by Babu Bepin Chandra Pal in his address above referred to, for the general body of the Hindus, Mohamadans, Buddhists, Parsis and Christians constituting the Indian population, the work of re-construction must be carried on along their respective, traditional, and historic lines, all working, however, towards one common universal goal. And more recently, Mr. Justice Sankaran Nair has said in his convocation address "Brotherhood within Hinduism or among the various divisions of the Indian people is the threshold to brotherhood among Hindus, Christians and Mohamadans." If this is so, such an instrument of national

union as the study of Sanskrit cannot fail to be to the Hindus cannot and ought not to be ignored and failure to make use of it may indicate want of wise statesmanship on the part of those to whose lot it has fallen to shape the activities of the nation. If our national progress is regulated in accordance with the considerations above mentioned and if facing the present situation bravely we gird up our loins and fight the country's cause then in this land of ours (to adopt the language of Dr. Miller) there may yet arise some community or race, some city or institution, something in which men's thoughts will find noble utterance and from which their energies will flame nobly forth, something that will make India a leader in the march of mankind towards its appointed goal.

P. NAGABHUSHANAM.

THE TEACHING OF GEOGRAPHY.*

Mr. President and Teachers of this Institution :

The subject of my paper is the teaching of Geography. My function, Gentlemen, is simply to introduce the subject and join you forthwith to listen to what our worthy President has to say on the subject. I have no new ideas or thoughts on this much-neglected subject but I devoutly hope that my paper and the remarks of our venerable Chairman will result in making all of us to think more seriously about the utility, the importance and real educative value of this subject in the school-curriculum. I have often heard it said that the subject in many schools is relegated to a subordinate place in the school time-table and that it is generally reserved for and handled by teachers who occupy the rear ranks of the school staff. It is, to a certain extent taught in a slipshod, slovenly fashion. It does not create or excite in the minds of the pupils any the slightest amount of interest or curiosity nor does the Geography teacher try to encourage the growth of the spirit of enquiry or

* A paper read at a meeting of the Ottapalam Teachers' Association under the presidency of Mr. P. P. Braithwaite.

a legitimate desire for an intelligent understanding and appreciation of geographical facts and phenomena on the part of his pupils. Some even go the length of saying that a certain distaste for the study of the subject has been encouraged either consciously or unconsciously by the highly antiquated system of cramming the infant minds with the dry fossils of Geography. The imparting of information has been considered to be the sole object of the teaching of the subject. The rational, intelligent and common sense aspect of the question has been left in the back-ground. There is no use of thus dilating too much upon the evils and defects in the present system of teaching the subject. What we have to do is to suggest some remedies and adopt improved methods. But, Gentlemen, I do not feel myself to be quite competent to deal with this question, but I venture to offer some suggestions simply because on account of the special interest that I have for the study and the teaching of the subject.

What we have got to realise in the first place is that Geography, like Science, is an intelligent study of common objects and events in ordinary life of different countries in different zones at different seasons of the year and since the subject is so wide and comprehensive, there is ample scope for the development of the latent reasoning or critical faculty of the boy. Real culture consists in understanding the relation between cause and effect, between antecedent and consequence. At the very outset of his education then, the boy should be taught to observe and notice carefully the ordinary objects and events of his own world. If a child is not taught right notions about things and events which must force themselves sooner or later upon his attention, he is sure to acquire wrong notions about them. In the early stages therefore, the boy should be taken to the neighbouring hill, valley, forest, lake or river and there he should be made to observe the details of river windings, deltas, estuaries, water partings and the like which we see indistinctly indicated in the diagrammatic representations used in the very inadequate maps that we have in schools. The

ordinary maps that we use in the class-room, I mean the political maps, are scarcely useful if not useless in the earlier stages of instruction. Mountains and rivers, forests and plains, elevations and depressions are not clearly marked in the maps. What is required in the early stages is to bring home to the minds of the pupils the relief of the country. We must have relief maps to show the physical features of the continents and models to illustrate these particulars in detail. Another point we have to bear in mind is that we have to teach the boys not names but how to think. Less of names and more of reasoning. For example we have to teach the pupils not the names of peaks of mountain ranges but the passes and their uses, the uses of mountains and rivers, the causes of the origin and growth, of towns in certain particular localities, the necessity for importation and exportation, the influences of climate upon productions, occupations of the people, their character, their tastes and tendencies, their clothing, the structure of their buildings and to some extent on the nature and character of their governments. In this, as in other subjects the teacher must cease to dogmatize. That the end of education is to enable him to understand the why and wherefore of these things, and thus to create in his mind the spirit of enquiry, should never be lost sight of. Let me add that it should also be an object of Geography teaching to stimulate the imagination and love of travel. Rambling classes and small excursion parties to centres of geographical interest are highly useful and hence should be encouraged. The teacher himself must be one who has got a passion for travel. Geography it is true, is essentially the subject which involves and encourages visualising. But just look at the position of the teacher who wants to describe the nature and character of the Niagara waterfalls, its noise resembling the roar of cannon or the roll of thunder, or the business and shipping activity of London or of New York without his actually seeing even the Papanasam or Sivsamudram waterfalls, or the business activity of Bombay or of Calcutta.

Teaching to be effective must be realistic. The teacher who does not set apart at least his one month's pay for purposes of travelling and the school that does not purchase up to date apparatus and appliances for the teaching of this all-important subject ill-deserves to be called pioneers in the field of education. They do not encourage the study of Geography in a serious and business-like manner. If they think that this is too great a drain upon their slender resources, is it not time for them to seriously think of withdrawing honorably from the field of education? I, for my part, am of opinion that the Geography teacher must be amply paid and in well-managed institutions there should be an allotment of a modest sum of 100 Rs. to enable the Geography teacher to make short trips to distant lands during Xmas or Summer holidays in order to benefit the pupils ultimately. Money spent in the purchase of a magic lantern and some slides by the management will be a real investment. A school museum is a desideratum. The teacher should not be found fault with for the deficiencies of the management. Thanks to the Educational Department and the Government of India for initiating useful reforms in this direction. The managers of schools will now at least realise the necessity for moving forward a little in this direction.

Gentlemen, unless and until these general principles have been fairly well grasped the subject must remain what it has been in the past—"mere snippets of disconnected information," or worse still "a book work for the book worm."

V. R. VAIDESWARIN.

OUR ENGLISH LETTER,

BRISTOL, June 1908.

The Education Bill has been read a second time. It secured a majority of 165, the Irish Nationalists voting against it. But we do not appear to be much nearer a definite settlement. Talk of conferences and compromise is in the air, but nothing definite has been arranged in the way of a round table conference, and all that either side seems willing to sacrifice in order to secure a settlement, is their opponent's convictions. Mr. Runciman won golden opinions by his defence of the Government Bill, and seems to have made an excellent beginning and to be a worthy addition to the Cabinet of all the talents. The Cabinet is indeed a formidable array. There is Mr. Asquith, the true son of Balliol, whose relentless logic is so crushing at the close of debate. Lord Morley of Blackburn, with his new dignity sitting strangely upon him, the doctrinaire politician who has surprised everyone by his administration of India, showing himself realist rather than idealist. Sir Edward Grey, aloof, going his own way, and taking almost the same place in the country as "the Duke" had for so long. Mr. Lloyd George and Mr. Winston Churchill, the brilliant cavalry leaders, the platform champions of the party, who seem to have some private compact which may mean much to the future of liberalism. Mr. Haldane, the brains of the Cabinet, the man with the German mind, the metaphysician. And Mr. Runciman is worthy of the company he keeps: he is young and strenuous, of unimpeachable character, sound rather than brilliant, a hardworking politician from his Cambridge days. I was told a few days ago by an intimate friend of his that he had realized all his father's ambitions for his son, even to the extent of marrying the wife whom his father had secretly wished that he should marry. Perhaps Sir Walter Runciman may desire further to see him Prime Minister: and he may yet achieve even that: who knows? But much water will have to flow beneath bridges ere that happens.

What is the hope for a settlement? Little, had it not been for the Licensing Bill. But this measure has most certainly drawn the Churches together, and has more particularly united the Bishops and the Non-conformist leaders. No one could fail to appreciate the courageous stand that has been taken by the Archbishop and by men like Gove and Chevasce, and this firm adherence to principle has much impressed men who could not altogether understand their fight for their schools. But in what way the settlement is to come no one knows. The words of the Premier are worth quoting, expressive in what they say and what they do not say, illustrating again the way in which everyone is talking of conciliation without any immediate sign of its taking shape and form. "Is not an agreement possible? The Churches, I believe, are drawing together. They are more and more anxious, and rightly anxious, not to go on throwing away the substance for the shadow. Educationists are eager for the same result—namely, to devote their undivided energies to the better instruction of the people. Under these conditions, near as we seem to be to an approximation in regard to many matters as to which two years, even one year ago we seemed to be separated by an unbridgable chasm, grave indeed will be the responsibility of any one, in whatever quarter he sits, or whatever be his motive, who stands between what we believe to be the wishes of the people and the best interests of the children of this country." The *Nation* has summed up the situation by saying the question of a settlement has been "remitted to the churches." What answer will they give?

Another Liberal member who made an admirable contribution to the Debate and should stand a good chance of some Government appointment before long is Mr. W. Ryland Adkins. I shall never forget the speech he made once at a political Club dinner at Oxford. Some one down to propose a toast failed to put in an appearance and Mr. Adkins was suddenly called on to take his place, and made one of the most brilliant speeches it has ever been my good fortune to hear; it was marked

by rare felicity in phrasing and a complete oppositeness which showed it to be an impromptu utterance.

The careers of two promising Oxonians has been cut short in the last week or two. Mr. C. C. Scott-Moncrieff was killed by a Dervish on the Blue Nile where he was stationed as a member of the Soudan Civil Service, while Mr. F. W. Curran, a Lincoln man who was President of the Union four or five years ago and had been Minister of Education in Cairo died when on the point of returning home. He was about to enter political life in England and would undoubtedly have been an acquisition either to the Liberals or the Nationalists. Mr. Curran, on his day—or his night—was a most brilliant speaker and proved a worthy antagonist of Lord Hugh Cecil who came up to the Union one night to defend the Establishment.

There has now been sufficient time for the forces that are arrayed against Mr. Birrell's Irish University Bill to marshal themselves. Received at its introduction with practical unanimity, it is now beginning to suffer at the hands of its friends. As ever, cold winds are blowing from the north: if you associate heat with the north of Ireland, that surely is only because the fire is fanned by the winds: cold winds can spread a hot fire. A special meeting of the General Assembly of the Presbyterian Church was convened at Belfast to consider the Bill, and a resolution was passed condemning its main principles. The points of objection were that in effect, if not nominally, it gave us a State-established and State-endowed Catholic University, and introduced the sectarian principle which would inevitably tend to a deterioration in the educational standard. It was also contended that it was unfair to Magee College, and did not pay due regard to the interests of religious minorities which had previously been secured by the Queen's colleges. The Catholics on the other hand are protesting against the inadequacy of the endowment while they are disappointed that there is not provision made for definite religious teaching by an

accredited professional staff: Dr. O'Dwyer has even spoken of the Bill as anti-religious and anti-Catholic. The Irish Methodists, not a very considerable or important body, have given the Bill 'qualified approval' and Mr. Birrell has received a deputation from them and has promised to do his best to remedy some minor deficiencies. Mr. Birrell has also announced in the House that Magee College, so far as the arts side is concerned, will be affiliated to the new Belfast University. This will also be the case, it is presumed, with Maynooth and Dublin. This is bound to stir up each of the opposing factions in turn. Mr. Birrell is once again in trouble: may he have a happy issue!

A story, true or otherwise, of Matthew Arnold is worth telling. Arnold entered the room of his colleague, Roby, and in his grand manner, three parts Oxford and one part inspectorial, remarked "You know, Roby, the old way of doing rule-of-three sums is quite exploded: the only way is the unity method." "Always happy to learn," said Roby, "I'll just set you a sum, and you shall show me the method. If three men can mow a field in four days, how long will it take six men to do it?" Arnold was a little taken aback, but replied "Ah, ahem, I'll just take it to my room and come back." Exit, and comes back almost at once. "I say, Roby, no humbug, you know; it really is a sum."

Reviews and Notices.

GLIMPSES INTO THE LIFE OF INDIAN PLANTS, BY REV. J. PFLEIDERER—BASEL MISSION BOOK DEPOSITORY, MANGALORE.

This is a very neatly printed interesting book and it will certainly be found useful by those who wish to know something about plant life. The study of plant life may be taken up in different ways and the author has chosen the systematic method of presentation of the subject. The descriptions of the plants selected are all clear and

prominence is given only to the most important features. Throughout the book the structural details are very cleverly combined with the vital processes of the plant organs. The plants selected as types are, however, not of general occurrence though common enough or easily procurable on the West Coast. This limits the usefulness of the book very considerably. Some of the illustrations, though good, are not very suitable ones. As examples we may point out the olive, the Cactuses, the hedgerose and the poppy. The selection of the pea plant as one of the types of the widely spread natural order Legumina is not very apt. In spite of these drawbacks, we have no hesitation in recommending this book as a useful introduction to the study of plants from a systematic point of view. The inclusion of coloured pictures of some of the plants of economic importance is a special feature of the book.

GEOMETRY—THEORETICAL AND PRACTICAL—PART II, BY W. P. WORKMAN, M.A., B. SC., AND A. G. CRACKNELL, M.A., B. SC., F. C. P.—UNIVERSITY TUTORIAL PRESS. (PRICE 2s.)

This is a little volume of 204 pages and is a continuation of Part I, the subject-matter of this part being Euclid Books II, III (35–37), IV (10–16) and VI. The whole of this part as well as Part I is written in accordance with modern ideas of the teaching of Geometry. The proofs are not Euclidean nor have the authors followed the order of Euclid. The book is full of numerical and algebraical illustrations and exercises in geometrical drawing. The graphical solution of the quadratic $ax^2 + bx + c = 0$ for all roots positive, negative and imaginary is very interesting and instructive. The expressions for the diagonals of a cyclic quadrilateral in terms of the sides have been obtained geometrically. There are also Sections on the modern extensions of Euclidean Geometry such as Harmonic Ranges, Inversion, Nine-Point Circle, Radical Axis, Poles and Polar, Theorems of Ceva,

Menelans, Desargues, &c. Every part of the subject has been very carefully treated both theoretically and practically. Parts I and II will be of immense use to the students of the Intermediate Examination (Group I) of the University of Madras. The get-up of the book is very excellent. We hope the two parts will command the popularity they so richly deserve.

ELEMENTARY ALGEBRA, BY W. D. EGGAR, M.A.—MESSRS. ARNOLD & SONS. (PRICE 3s. 6d.)

It is the general opinion of inexperienced teachers that the subject of Algebra is very easily taught to students. The teaching is of course easy when the object of the teacher is to cram young minds with mechanical rules. There are students who, in an examination, score very high marks in Algebra, and very low marks in Arithmetic and Geometry. This is entirely due to the mechanical kind of instructions that is imparted in Algebra. Students generally take Algebra to mean 'nothing.' It is with the object of making the subject mean 'something' that the volume under review seems to have been written. With this object in view it became necessary for the author to change the usual order of treatment of the subject. First the use of signs and symbols is explained with numerous concrete illustrations, next there is a chapter on easy problems, next a chapter on Graphs. Factors and long multiplication and division came late. Graphical methods are freely used throughout the book. The geometrical illustration of the quadratic $ax^2 + bx + c = 0$ for real roots is very interesting and instructive. There are Chapters on the Binomial Theorem (Positive Integral Exponent), the Theory of Quadratics, the Theory of Indices, Ratio, Properties, Variation and Progressions. There is a large collection of examples in each chapter. There are also about 400 miscellaneous examples divided into three distinct sections. The get-up of the book is very excellent. We are of opinion that the book must be in the library of every High School and

in the hands of every teacher who wishes to teach the subject of Algebra in accordance with modern requirements.

THE INDIAN TRUSTS ACT WITH A COMMENTARY, BY MR. E. B. POWELL, M.A., LL.B., BAR-AT-LAW, 2ND EDN.—SRINIVASA VARADACHARI & CO., MADRAS, CROWN OCTAVO, 444 PAGES. (PRICE Rs. 5.)

The above book which we are glad to note has reached a 2nd Edition, is a neat and well arranged exposition of the Law of Private Trusts in India as embodied by the Legislature in Act II of 1882. The book is prefaced with an Analytical Summary of the Act and an Introduction which briefly but lucidly traces the origin and growth of the Law of Trusts in England. To each section of the Act, concise notes are appended and the meaning and scope of the sections are illustrated by citation and explanation of the leading English cases. Deviations of the English Law are carefully noted, the Indian Case Law on the subject is brought up to-date and the latest amendment to the Act by Act III of 1908 is incorporated. The Book closes with a well prepared Index which adds to the usefulness of the book. But we are of opinion that Chapters IV and V ought to be treated in greater fulness and more methodically. The same observation applies to Chapter IX where the author might have illustrated the subject by reference to the Indian Contract Act where the Legislature in the same terminology speaks of certain obligations resembling those of contracts. Notwithstanding these shortcomings, the book ought to be in the hands of every practitioner especially so as Messrs. Agnew and Henderson's excellent work on the Law of Trusts in India has been out of print for over a decade. The printing and get-up is all that is desirable and as usual characteristic of the high class work turned out by the Publishers.

DIRECTORY OF INDIAN GOODS AND INDUSTRIES, 2ND EDITION—INDIAN INDUSTRIAL OFFICE, AMRAOTI. ROYAL OCTAVO, ABOUT 250 PAGES. (PRICE RUPEE 1 ANNAS 8.)

The book is divided into two parts. Part I contains the different firms where different articles are sold. Part II contains a full list of Indian Industries, including Banks, Insurance Companies and Machinery importers. This is a valuable guide to all merchants.

REPORT OF THE SECOND INDIAN INDUSTRIAL CONFERENCE HELD AT CALCUTTA IN DEC. 1907. DEMY OCTAVO, ABOUT 700 PAGES. (PRICE Rs. 2.)

The book contains valuable contributions on various Indian Industries by experts or by persons who have devoted some attention to some special subject. If the Conference be repeated year after year, and the report of the each Conference be published, it will be promoting the local industries largely. We wish the Conference all success.

L'AVARE-COMEDIE PAR MOLIERE, EDITED BY O. H. FYNES-CLINTON, M.A.—MACMILLAN AND CO., LIMITED, LONDON, 1908.

This book belongs to a series of text-books prepared from the classical French authors of the seventeenth and eighteenth centuries. A feature of this series is that an appendix gives a number of subjects for free composition together with a certain amount of guidance indicating the lines along which the pupil should elaborate his thoughts. And the appendix contains English passages for translation into French. In a separate chapter coming after the notes the differences between the French of the authors and that of to-day are pointed out. We hope this new series will meet with the same favour that the Modern French Series by the same publishers has received.

GRISELDA OR THE PATIENT WIFE, IN TAMIL, BY
C. SUNDARAM AIYAR, B.A.—GENERAL SUP-
PLIES CO., MADRAS. (PRICE AS. 3.)

The story told in this small book is a king having married a poor girl of a low family, tried her patience and faithfulness by hard tests. The king insisted to put an end to the lives of his two children which she consented with willingness; and lastly he sent his wife away to her father's cottage on the pretext of his intention to marry a wife from a royal family. She accordingly went away to her father's hut without the least grudge. The second marriage was settled and Griselda was ordered to come back and arrange for the marriage. This also she has most willingly and obediently undertook to do. At the time of the proposed marriage the king made her known

that he did all this to test her patience and faithfulness and he is exceedingly pleased with her conduct. The king took her back publicly as his wife and the children were handed over to her.

We think such serious trials are not necessary to test a wife's conduct. The moral is that every husband should take a lesson from Griselda's patience and treat his wife with equality and liberty due to the sex. Now-a-days there is any amount of speeches and preaching that women should be treated better than they are now but in practice little is done to elevate and promote our women. Chapter 5 deserves to be read carefully by all our girls.

The book is neatly got-up and it is in simple language.

THE INDIAN TRUSTS ACT, 1882

(ACT II OF 1882)

(Amended up to 1st May 1908)

WITH A COMMENTARY

BY

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Indian Educational Notes.

MADRAS.

REVEREND Father H. J. Quinn, S.J., D.D., is appointed as an Ordinary Fellow of the Madras University.

Mr. S. T. Kallapiran Pillay, the leave on medical certificate for three months granted to Mr. S. T. Kallapiran Pillay, Sub-Assistant Inspector of Schools, Palladam Range, is extended by two months.

Mr. P. S. Ramamritam Iyer, Headmaster, Municipal Town School, Salem, acts as Sub-Assistant Inspector of Schools, Tirupattur Range, in the Probationary class, during the absence of Mr. B. C. Ramasawmy Iyer on other duty or until further orders.

Mr. V. S. Narayana Rao, privilege leave for three months, with effect from the 1st June, 1908, or from date of relief thereafter, is granted to Mr. V. S. Narayana Rao, Sub-Assistant Inspector of Schools, Chittoor Range.

Mr. M. Doraisawmy Iyengar, Supervisor of Primary Schools, Wallajapet Sub-Range, is appointed subject to the approval of the President, Taluk Board, Ranipet, to act for Mr. V. S. Narayana Rao, in the Probationary class, during his absence on leave or until further orders.

Mr. P. Ramanujachari, privilege leave for one month from the 1st June, 1908, or from date of relief is granted to Mr. P. Ramanujachari, Sub-Assistant Inspector of Schools, Tiruvallur Range, and the Sub-Assistant Inspector of Schools, Georgetown Range, is appointed to be in charge of the Tiruvallur Range in addition to his own duties during the absence of Mr. P. Ramanujachari on leave or until further orders.

MAJOR C. Donovan, I.M.S., is to be an Ordinary Fellow of the Madras University.

Mr. John Cook, having resigned his office as Fellow of the Madras University under the Indian Universities Act, 1904, section 11, sub-section (1), to be an Honorary Fellow under section 13, sub-section (1), clause (c).

SIR P. N. Krishnamurti, K.C.I.E., having resigned his office as Fellow of the Madras University under the Indian Universities Act, 1904, section 11, sub-section (1), to be an Honorary Fellow under section 13, sub-section (1) clause (c).

Rev. Aristides Macry, S. J., a Greek by birth and a graduate of the Paris University, has been appointed Professor of History in the St. Aloysius' College.

XIV

Mr. Manjeri S. Rama Iyer, B.A., B.L., a leading member of the Calicut Bar, has been appointed Mathematics teacher in the Zamorin's College.

THE Director of Public Instruction has been requested by Government to take such steps as may be possible to encourage the education of the children of labourers employed on plantations in this Presidency. The attention of the District Boards of Madura, Tinnevely, Coimbatore, the Nilgiris, Malabar and Salem is also drawn to the necessity of making suitable provision for this purpose so far as the plantations in their respective districts are concerned.

THE Government of Madras have accepted the recommendation of the Director of Public Instruction as regards the establishment of a student's hostel in connection with the Government College, Mangalore. They are prepared to acquire the land and buildings required for the hostel on receipt of a formal application from the Committee of the hostel undertaking to hand over to Government the funds now in their hands and all future collections to the extent of not less than Rs. 8,000 in the aggregate.

At a public meeting held at the College of Cocanada, recently, it was resolved to establish an Anglo-Vedic College there. The object of this institution is to impart instruction in the Vedas and in English to Brahmin youths. Mr. K. Perazhu, the present Secretary to the College Council, has assigned for the benefit of this institution "Friendships' Lodge," the Free Reading Room and other buildings belonging to him, of the aggregate value of Rs. 20,000. The Library attached to the Reading Room, will be also handed over to the institution.

In concluding an article on the subject of technical education for workmen in the Indian Review Mr. John Wallace says:—India has yet to recover from an educational impulse in the wrong direction. Reading and writing, which have been of incalculable value to certain classes, are not of use to all, and they become positively pernicious when they entice young men away, from a sure living by handicraft, to the overcrowded ranks of clerical labour. A time will come when literary knowledge will be necessary to the whole population of India, but that is the affair of posterity. I have endeavoured in the foregoing remarks to prove that no suitable education has been provided for the large class of workmen on whose competence the quality of India's products principally depends and that many of the attempts that have been made to improve the craftsman have defeated their own ends by teaching the wrong subject and attempting too much. Education for the masses has been tried for many years, with singular success, if we may judge by results, and it is certainly not because the pupil cannot learn. A new class of teachers is

required, with special training, to meet the real needs of the working community, and no man should be allowed to undertake class work who cannot furnish proofs of his ability to teach. An incompetent teacher of craft, however clever he may be as a workman, will simply help to perpetuate the faulty methods, the bane of India's industries; which it is the chief object of technical education to remove.

DECISION OF THE COMMITTEE OF THE SCHOOL FINAL EXAMINATION.

THE members of the School Final Examination Committee after a sitting for over a fortnight in the Breek's Memorial School, Ootacamund, have completed their labours. It is understood that the tentative scheme set out in the recent Government Order has not been approved by the Committee, and that considerable departure will be made from it in its Report. The Committee is said to be anxious that education should not be subordinated to any consideration of examination and that its final recommendation will involve a scheme which will be a test of the progress of a boy in his school career from month to month, as the present examinations do not adequately conduce to this end. A sort of "school-leaving certificate," based on the intimate knowledge of a boy's capacity formed by the masters who have been responsible for his education in his school career, is believed to be contemplated by the Committee.

The members who took part in the deliberation are the Hon'ble Dr. A. G. Bourne, Chairman; Messrs. J. H. Stone, E. W. Middelmas, W. S. Hadaway, K. B. Ramnatha Iyer, P. T. Srinivasa Iyengar and A. C. Pranatharthihara Iyer, Father Sewell, and the Rev. J. Cooling.

THE Committee recently appointed by the Syndicate to report upon the causes of the abnormal failures at the recent Matriculation Examination consists of the following gentlemen:—Mr J. H. Stone (President), the Hon'ble Dr. A. G. Bourne, Mr. P. T. Srinivasa Aiyangar, Mr. A. C. Pranatharthihara Aiyar, and the Rev. J. M. Russell, besides the Registrar of the University. The following witnesses have been examined:—The Rev. Father Sewell, Mr. Mark Hunter, Mr. Seaton of Hyderabad, and Mr. H. B. Ramanatha Aiyar. Some of the Headmasters of the High Schools are also to be examined and their examination is expected to throw much light on the subject. The possible causes of the Matriculation failures are the bad equipment of High Schools, inadequate preparation by candidates, severity of examination papers, and the eccentricities of Examiners in the valuation of papers.

Mr Mark Hunter, Principal of the Rajahmundry College, concludes his Report on the working of the College in 1907 as follows:—"Discipline—Of the misconduct of the students of the College in the

first term and of the punishment inflicted on them by Government and the Syndicate of the University nothing need be said. The facts are unfortunately public property. During the second term, I am happy to report, the behaviour of the students in the College, in the hostel and, so far as I can ascertain, beyond the College precincts was exemplary.

I have this year in a special manner to acknowledge the loyal support rendered me by the staff individually and collectively." The Director of Public Instruction, in recording the Report, remarks:—"The most notable event of the year was the unfortunate disturbance caused by the students about the end of the first term, resulting in the rustication of a large number of them. The Director is glad to note that the conduct of the students during the second term was satisfactory. . . . The principal and the staff deserve to be congratulated on the efficient administration of the institution during the year under trying circumstances.

THE Government of Madras have issued the following G. O. in the Educational Department:—"Candidates who have passed the examination prescribed for the old Surveyor class of the College of Engineering, Madras, will be considered qualified for appointment as Sub-overseers and Surveyors in the Public Works Department."

THE Government have issued an order stating that the Inspector of European and Training Schools may permit the Managers of European Schools to prepare pupils in the current year for both the Matriculation and the High School examinations, and observing that arrangements should be made at the same time for holding the High School examination in the current year.

Two facts in the working of the Madras Law College which are noteworthy are first that the Government realised a net income of Rs. 29,596 during the year 1907, swelling the total of the surplus since 1892-93 to Rs. 2,09,288, and secondly there was an increase of 93 students on the numbers for 1906.

The Director of Public Instruction, in his review of the report of the College requests the Principal "to be good enough to refer in future reports to the results of the working of the system of class examinations and the assignment by the staff of special hours for interviews to individual students."

GOVERNMENT have sanctioned the payment of a grant of Rs. 6,000 towards the cost of constructing an additional building for the Hindu High School, Triplicane, Madras.

THE distribution of prizes at the Nazareth Convent School, Ootacamund, took place recently with Her Excellency Lady Lawley in the chair. A most

interesting programme was capitally gone through after which the annual report was read.

Her Excellency Lady Lawley in a few words expressed the pleasure it had given her to be able to distribute the prizes, especially as she was not able to do so last year, and congratulated the winners of the various prizes, and those children who had taken part in the programme on the admirable manner in which they had acquitted themselves.

THE Report of the Madras Sanskrit College for the year 1907-1908 is an encouraging one. During the year the College was inspected by the Educational Department and was pronounced to be "satisfactory in every respect and highly deserving of help and encouragement." The College was also visited by Professor Macdonnell, Boden Professor at Oxford, Professor Johnson, Mr. R. C. Dutt, C.I.E., the Dewan of Travancore, and others, all of whom expressed great satisfaction at the working of the College. The results of the two examinations held during the year were satisfactory. The publication of the great work on Mimamsa, the Kutubala Vritti, edited by the Principal and two of the Professors of the College is being pushed through. An English rendering of the Jaiminiya Nyayas illustrated by topics from Vyavahara Kanda and introduced by a Preface has just been commenced by Mr. S. Kuppusami Sastri, M.A. There are at present 28 free students in the College, of whom 23 are free boarders. Students in the M.A. classes of local Arts Colleges are also allowed to attend lectures at the Sanskrit College and special private classes are arranged for them. Arrangements are being made for the students of the Sanskrit College to attend classes in English at the local High School, and they are also required to attend the English lectures on the Gita delivered in Mylapore by Swami Ramakrishnananda. There is still much room for the expansion of the College as a permanent building and chairs in other branches of Sanskrit study are urgently needed. It is to be hoped that this excellent institution will receive the fullest support from the public of Madras.

A Government Order reviewing the work of the College of Engineering, Madras, during the year 1907 has been issued. The most notable events of the year were the retirement of Colonel H. D. Love, R. E., a serious loss to the institution—he had served so long and with so much ability—and the introduction of the revised rules. The number of students on the rolls at the end of the year was 357, as against 315 in the preceding year, the percentage of Brahmin students being as usual very high. The examination results were good. Of the 16 Engineer class students who appeared for the final examination, all passed, and of the 33 students of the Engineer Subordinate class 29 were successful, while in the Sub-Overseer and Survey class 34 passed out of 37. In the Draftsman class, however, only 18 of the 31 College students were successful.

On the whole, the working of the College was highly satisfactory.

The Government have approved the proposals of the Principal of the Engineering College to introduce from July next the separate courses of instruction for the Civil and Mechanical Engineer classes recommended by the Committee appointed to advise on the extension and reorganization of the College of Engineering and have also sanctioned the revised syllabuses and the scheme of marks for the two classes.

THE Governor in Council has delegated to the Director of Public Instruction the powers which are now vested in the Local Government by Articles 36, 39, 44 (d), 90 and 104 of the Code of Regulations for European Schools.

BOMBAY.

THE Government have sanctioned a scholarship of Rs. 800 per annum, tenable for three years, to Mr. D'Silva, son of the State Photographer, to enable him to study in the Bombay Technical Institute.

DECREASE in the number of English teachers is the main cause, says the Superintendent of Bombay Municipal Schools, for the deterioration evident in the standard of higher education in the Province. A concurrent cause is the matriculation of very many students who scrape through the entrance examination but are unfitted for education of university rank. As one remedy it is proposed that matriculation should only be allowed on the joint recommendation of headmasters and school inspectors.

It is proposed by some of the leading and wealthy Parsi gentlemen of Bombay to establish a *Central Parsi College* in Bombay on new lines. They are prepared to make liberal endowments to the New College.

BENGAL.

A MEETING of the Senate of the Calcutta University was held recently, the Hon. the Vice-Chancellor presiding.

The first item of business was the recommendation of the Syndicate that Professor R. Pischel, of Berlin, be appointed Reader to the University for 1908-1909, the subject of his lectures being "The Philology of the Prakrit language."

Babu Brojendra Nath Seal moved the proposal, which was seconded by Mr. J. N. Dass Gupta.

Mahamahopadhyaya Haraprasad Shastri proposed an amendment to the effect that the name of Dr. A. F. R. Hoernle be substituted for that of Professor Pischel. A brief discussion followed on the subject

after which the amendment was put to the vote and lost by a large majority. The original motion was then carried almost unanimously.

The second item was the appointment of certain gentlemen as University Lecturers, and Professor Hari Nath Dey moved that the following gentlemen be appointed in the subjects noted against their names:—

Professor E. Veredenburg, B. S. C., F. G. S.—Geology.

L. Fermor, Esq., A. S. M., F. G. S.—Geology.

Professor Bipin Behari Sen, M. A.—History.

Rev. A. Tomory, M. A.—Political Economy and Political Philosophy.

Professor Binayendranath Sen, M. A.—Political Economy and Political Philosophy.

Dr. A. Shorawardy, M.A., Ph. D.—Arabic.

Pande Ramavatara Sarma, M. A.—Sanskrit, Group A.

Pandit Pramathanath Tarakabhusan—Sanskrit, Group A.

Pandit Rajendranath Vidyabhusan—Sanskrit, Group A.

Dr. T. Bloch, Ph. D.—Sanskrit.

The motion was seconded by Babu Golap Chandra Sircar and was unanimously carried.

Then the recommendation of the Syndicate that with effect from the ensuing session St. Columbus College, Hazaribagh, be affiliated to the University to the Intermediate Standard Arts and Science in Chemistry and Botany, was accepted.

After some formal items of business, the meeting came to an end.

THE Syndicate of the Calcutta University in response to a memorial signed by many members of the Senate, resolved at the meeting recently to hold supplementary examinations in December next for the plucked F. A. and B. A. candidates.

AT the last meeting of the Senate of the Calcutta University Dr. G. T. Walker, M. A., D. Sc., F. R. S., was appointed University Reader for 1908-09, the subject to be some branch of Physics to be notified hereafter.

A Special Post Graduate Scholarship of Rs. 50 per mensem is, with sanction of Government, awarded to Babu Jogendra Nath Datta, B. A., to enable him to undergo a course of special training in Geology and Mineralogy. The scholarship is tenable for two years with effect from the 1st May 1908, and the training will be given by the Geological Survey Department under the orders of the Director, Geological Survey of India, Calcutta. The scholarship will be terminated if the Director reports at any time that the student is not making

such progress as renders it likely that he will be able to earn his livelihood at the end of the course.

The Education Department in Eastern Bengal and Assam are electing two scholars for the Engineering Department of the Civil Engineering College at Sibpur and four scholars for the Overseer Department of the Dacca School of Engineering from youths who are residents of Assam. In the case of the Sibpur candidates the scholarships are to be of the value of Rs. 25 per mensem for the first four years and of Rs. 50 during the fifth year. Grants will also be made to cover expenses of the journey to Calcutta, and for admission to the College and the cost of books and apparatus.

THE Government of Bengal will grant two post-graduate Agricultural Scholarships and nine Agricultural Scholarships open to natives of this province tenable for a period of 2 and 3 years. The value of the first named scholarships will be Rs. 30 each per mensem, the stipend-holders being required to go through a two years' course at the Imperial Agricultural College at Pusa. The value of the Agricultural Scholarships will be Rs. 20 per mensem each and the stipend-holders will be required to go through a three years' course at a Provincial Agricultural College, the first portion of the course being taken at Poona, Nagpur or Cawnpur and the remainder at the Bengal Provincial Agricultural College at Babour, Bhagalpur, which it is hoped will be opened in 1909.

PUNJAB.

THE cloud that hung over the Khalsa College has at last vanished, says a correspondent of the *Pioneer*. The whole constitution of the College has been modified; a new Council and a new Managing Committee with the Hon'ble Mr. R. E. Younghusband, as President, has been formed. The Phulkian States have again come forward to help the College, and are fairly represented on the Managing Board. The new Council will consist of fifty-eight members, and on it all classes and interests are represented. The management of the College will remain in the hands of a small Managing Committee consisting of twelve elected members, and the Commissioner of Lahore and Deputy Commissioner of Amritsar as President and Vice-President. Sirdar Sundar Singh Majuthia whose work for the well-being of the Sikhs has won for him the title of "Ornament of the Khalsa" will act as an Honorary Secretary. The Government has sanctioned an annual grant of Rs. 10,000. The future of the Khalsa College is full of every promise. The keen interest taken by the Government in the education of the Sikhs is a guarantee of its success. The Khalsa College in time is sure to become the nursery of brave and loyal soldiers. The College is already very popular. There are more than 600 boys in the boarding house, and many have been refused admission as there is no room. It is to be

hoped that the construction of the main building will be taken in hand at an early date. It has been designed by Sirdar Sahib Rama Singh, the well-known architect of the Queen, and is estimated to cost nearly Rs. 6 lakhs. It should be the handsomest building in Upper India when it takes shape in brick and mortar; on paper it looks very grand indeed. The Sikhs seem to have awakened to their educational needs. A very good high school in Gujranwalla has been started, the foundation of another was laid only the other day at Lyallpur by the popular Deputy Commissioner of that place, and there is talk of opening another at Ludhiana. In a few years' time there will be plenty of schools for boys, but we hope that the education of girls will not be neglected, and that many more girls' schools will spring up on the same lines as the one started at Ferozepur and which is doing such a useful work. The education of the girls is of greater importance than that of the boys; it is they who can give that education which India so badly needs.

THE Syndicate of the Punjab University considered recently the Report of a Special Sub-Committee appointed to consider an application received for the recognition of the Habeebiya University, Kabul. It appears from the report that the scheme of education described in the papers received from the Director of Public Instruction, Afghanistan, had not yet been developed beyond the high school stage. The Sub-Committee considered, therefore, that the time was not yet ripe to discuss the question whether an Intermediate passed candidate of the Habeebiya University could be admitted to the third year class of a Punjab College. As regards the admission of a Matriculation passed candidate of the Habeebiya University to the first year class of the Punjab College, the Sub-Committee considered it would be desirable to receive more detailed information as to the instruction given in the English language, as without a certain amount of proficiency in this language students would be unable to profit by the instruction in a Punjab College. It was voted further that under the regulation each case would require the sanction of the Syndicate, and that application could be made under the existing regulations whenever a candidate from the Habeebiya Collegiate School might wish to continue his education in the Punjab. The Syndicate has decided to accept all these conclusions.

THE Syndicate of the Punjab University has appointed a Committee to report on the abnormal failures at the last L.L.B. and Shastri Examinations.

WORK has already begun on the new Edwardes' Church Mission College at Peshawar. The Government of India in March last, says the Lahore paper, sanctioned a grant of Rs. 25,000 towards the cost of

building, and the funds in hand amount to Rs. 12,000. A special appeal has been issued for Rs. 13,000, which are required to complete the cost of the College and for Rs. 95,000 for the College Hostel. The site for the new buildings, it may be mentioned, has cost nothing, as it is on land belonging to the Afghan Mission House. The College, as apart from the buildings, is already in existence, the classes having hitherto been held in the Mission School. The Punjab University made the erection of a properly equipped building within two years, a condition of affiliation. The College will carry on the splendid traditions of the Afghan Mission School founded in 1853 chiefly through the efforts of Colonel Martin, and with the support of Sir Herbert Edwardes, Lord Lawrence and other men famous in Punjab history. The School has had a hostel attached since 1872. The school has reason to be proud of the record of its pupils, and it was but natural that the Afghan Mission should wish to lead the way in higher education as well. It will be remembered that on the death of Queen Victoria, a movement was started to found a Government College as a memorial, but the fact that the Mission had already made a start in founding a College was considered sufficient reason for choosing some other form of memorial.

THE Faculty of Science of the Punjab University has recommended that the courses in all Science subjects, from the Matriculation to the Bachelor's degree in the Arts and Science Faculties, should be identical both in the practical and theoretical examinations, and that the change should take effect for the first time, in the examinations of 1911.

OWING to the fluctuating standard of University examinations in the Punjab, the University Syndicate have agreed to appoint a Board of three Moderators in each subject in Intermediate and Entrance Examinations. The Moderators will not be teachers of the subjects in which they act as Moderators.

MYSORE.

ON certain proposals made by the Inspector-General of Education in Mysore that additional grant, amounting to Rs. 3,170, may be sanctioned in the Budget Estimates of the Government Industrial School for 1908-09, the Government observe that the increases of pay recommended are sanctioned with effect from 12th July, 1908. The additional establishment asked for, viz.—an Assistant Drawing Master and an Assistant Machine Instructor, is sanctioned temporarily for 1 year. The question of the confirmation of these additional hands will be decided later on after more experience has been gained of the requirements of the school. Government consider that the present grant for Scholarships, viz., Rs. 9,600, is quite sufficient and that no additional grant is now necessary. The Committee is however authorised to alter the

number and amounts of scholarships as may be necessary, within the limit of Rs. 9,600.

IN the course of a speech delivered by Mr. Madhava Rao at Bangalore he is said to have advocated the introduction of the religious and moral teaching in Government Schools.

THE branch Theosophical Society in the Mysore Province, has devised a scheme of educational work in the special interest of the masses who are within the reach of the influence of the operations of the Society. The Society is convinced that the building up of the character of the people of the country is the only proper remedy for many of the evils to which people are subject, and that such building of character is best achieved by means of education. Modern education is pointed out to be directed solely to the cultivation of intellect, and no attention is paid to the cultivation of higher purposes of life, and, therefore, modern education is defective and has produced baneful results on the lives of educated men, who are content with their own achievement and merits.

To avert the evil consequences of such a system, the Society approves the imparting of religious education in schools, and urges increase in the number of institutions like the Hindu College at Benares and the Mahomedan College at Aligarh. During the seven years of the existence of this branch Society it claims to have striven to lay a foundation for the education of the masses, who, it is said, are prejudiced against modern education. The Society proposes to start a taluq school for the education and elevation of the masses, but intends to work on a modest scale, undertaking the training of only a number of young men periodically, who, it is hoped, will carry enlightenment to their families and villages.

THE Indian Institute of Science at Bangalore is about to take practical form after many years' delay. It will be a post-graduate college of pure and applied science, with departments of Pure, Applied, and Organic Chemistry, Electrical Technology, Bacteriology, and Metallurgy. The nucleus of the maintenance fund as provided by the late Mr. J. N. Tata, a Bombay merchant, while the Maharajah of Mysore gave a site and 500,000 rupees towards the building and promises an annual subsidy of 50,000 rupees. The Indian Government's contribution is 250,000 rupees for buildings and 87,500 rupees a year. The Director of the Institute is Dr. Morris Travers, D. Sc. Lond., formerly Professor of Chemistry at University College, Bristol.

THERE is now a proposal before the Government of Mysore to introduce Hindu religious instruction in all the State and Aided schools in the Province side by side with secular instruction. The idea is that "the beginning of wisdom is the fear of God"

and without religious instruction, no education is complete. This is evidently the sequel to the important speech which His Excellency the Viceroy made in reply to the address given to him by the Sri Bharata Dharma Mahamandala.—*Daily Post*.

GOVERNMENT having decided to prescribe the recitation of Amarakosa from the III Vernacular classes upwards in all Kanada and Anglo-Kanada Schools for boys and girls, the following rules are prescribed for the introduction of the subject:—(1) The recitation of Amarakosa will form part of four lessons a week in Vernacular reading prescribed in the III, IV, and V. Kanada classes of all Kanada and Anglo-Kanada schools for boys and girls. Each day's recitation need not exceed two slokas nor occupy more than 15 minutes of the lower set apart for the reading lesson; (2) The first Kanada is prescribed for class III, the second Kanada with the exception of Vargas 2, 3 and 4 for class IV and the third Kanada with the exception of the last Varga for class V; (3) The general import of each sloka should be briefly indicated by the teacher.

TRAVANCORE.

THE Government of Travancore have earned the gratitude of Primary School teachers of the State by enhancing their pay by Rs. 2. We find the following order in a recent *Travancore Gazette*: "At present, the minimum pay of a teacher in Sirkar schools is Rs. (5) five per mensem. Government resolve to raise it to Rs. (7) seven per mensem, with effect from 1st Vaikasi 1083. There are now 227 teachers on Rs. (5) five and 226 on Rs. (6) six per mensem in Sirkar schools. The pay of all of them is raised to Rs. (7) seven each per mensem, with effect from the above date. No teacher shall, in future, be appointed in any Sirkar school on a pay of less than Rs. (7) seven per mensem."

A FEW years ago a scheme was sanctioned for the publication of a Sanskrit monthly journal and for the printing of some rare and valuable MSS. in the Oriental MSS. Library attached to the Maharaja's Palace of Travancore. The first work taken up was an original treatise by a former Maharaja of Travancore. It was followed by another, and since then the scheme has not made much progress. The Durbar has now decided to reorganise the institution. With this object in view, a Curator has been appointed with a staff of subordinates.

COCHIN.

SPECIAL EDUCATIONAL OFFICER AND ASSISTANTS.

THE transfer of the services of Mr. Arthur Mayhew, B.A., Deputy Director of Public Instruction, Madras, has been applied for the post of Special Educational

Officer of the Cochin State for such period as the Madras Government may spare his services subject to minimum of one year. Mr. C. Mathai, B.A., L.T., Headmaster of the Trichur High School, is to be appointed Assistant to the Special Educational Officer on Rs. 200, rising to Rs. 250. He is to be appointed Chief Inspector of Schools on Rs. 250, rising to Rs. 400, by annual increments of Rs. 25 in the event of his acquiring the adequate training on the expiry of the term of the Special Educational Officer. Mr. K. K. Krishna Iyer, B.A., L.T. (an outsider), is appointed 1st Grade Deputy Inspector on Rs. 150 to Rs. 175. Mr. L. R. Viswanatha Iyer, B.A. (trained), to be Deputy Inspector, 2nd grade, on Rs. 125 to Rs. 150, and L. K. Anantakrishna Iyer, B.A., L.T., to be Deputy Inspector, 3rd Grade, on Rs. 100 to Rs. 125, but the last named will be on special duty until further orders in connection with Ethnographical Researches on a salary of Rs. 125, and the acting vacancy is not to be filled at present.

LECTURERS TO THE COLLEGE.

Mr. Vencateswara Iyer, M.A., L.T., is appointed the Senior Lecturer on Rs. 200 to Rs. 300. Mr. S. K. Subramania Iyer, M.A., L.T., the second lecturer, on Rs. 150 to Rs. 200. Mr. R. Devaraja Iyer, the third, on Rs. 125; Mr. K. Narasinga Pai, the fourth, on Rs. 100, and Mr. N. A. Parameswara Iyer, the fifth lecturer, on Rs. 100.

THE RE-ORGANIZATION OF THE EDUCATIONAL DEPARTMENT.

THE Dewan's Proceedings re the re-organization of the Educational Department will take effect from the beginning of the Malabar month. His proceedings on this subject show that he carefully considered the host of public criticisms that were levelled against his original scheme. The scheme that is brought into force now is purely administrative and relates exclusively to the Government Department of Education or, in other words, the final orders passed in regard to the organization of the department and the constitution of a proper educational staff, both as regards inspection as well as teaching. With reference to the original scheme the British Resident considers that the proposal to provide the State with a Chief Inspecting Officer to inspect all the schools, with the exception of the Ernakulam College, is sound, but he does not consider it desirable to reduce the pay of the Principal to Rs. 500 without any increment, and is of opinion that the pay of the Principal of the Ernakulam College should be Rs. 500, rising to Rs. 650, as at present, and fixing the pay of the Inspector at Rs. 650, rising to Rs. 800. Mr. Carr further adds that as the Dewan contemplates the improvement of the general system of management, the addition of a hostel and the development of the appliances to suit modern requirements, there is no reason why the Principal should be put on a lower scale than all his predecessors. The Dewan also proposed that the Principal should be the person to be select-

ed for the Inspector's place when there is a vacancy, and that, therefore, no incremental scale is called for, and that the Principal should always be a man with a degree of some recognised University of Great Britain; a considerable amount of criticism has been directed, firstly, to point out that under the scheme the highest educational appointment will practically be reserved to outsiders, and who are now in the service will have to limit their ambition to the senior lecturership of the Ernakulam College and as it is an appointment beyond which there is no prospect of promotion, and secondly that there is no necessity to restrict the appointment of the Principal to persons holding European qualifications. In the memorandum submitted by the Managers and Headmasters, they urged that a qualified Cochin officer of competent local experience and knowledge of the vernacular in the State service should be appointed to the Inspector's place. The Headmasters of the District High Schools, who were permitted by the Dewan to submit a memorial in regard to the matters connected with the educational service of the State, urge:—

Firstly.—That in the matter of pay the several officers of the State may as far as possible be graded.

Secondly.—A more liberal scale of salary may be introduced, especially as in the proposed scheme the highest pay that a graduate of the Indian University can aspire to is Rs. 200, where as there are at present two places over Rs. 200.

Thirdly.—That efficient F.A.'s and Matriculates may be given greater chances of rising in the service.

Fourthly.—That the pay of the last class teacher may be fixed at Rs. 15, and

Fifthly.—That in elementary schools which teach up to the 4th standard, the pay of the Headmasters may be fixed at Rs. 20 and of the last teacher at Rs. 8.

Regarding the abolition of the Palace School at Tirpunitura the 6th Prince has expressed the opinion that he welcomes the abolition, provided that the education of young princes below the age of 15 are seen to at Tirpunitura when the Palace School is converted into a High School.

The Dewan contends that he has carefully considered the various criticisms and suggestions set forth above as well as the considerable amount of public opinion expressed from various quarters that found its way out in the Public Press, and after giving a detailed and careful consideration to the subject, is now pleased to announce the decision of Government so far as the constitution of the State Department is concerned, and that separate orders will be issued after the reconstitution of the department when the Special Educational Officer now ordered to be appointed has completed his investigation and drawn up a detailed scheme for the consideration of the Durbar. At present the Government intends appointing a special Educational Officer, whose duty will be to study in detail the

various educational problems and to draw up a complete scheme in consultation with the Senior Educational officers of the State as well as known educationists outside the State Service, either as managers or heads of private educational institutions. The Durbar intends employing him for a period of three years, so that he may have ample time to study local conditions and be able to work out a scheme with special reference to the improvement of Primary Education. He is to be the responsible head of the department with full administrative powers to initiate and to carry out the scheme successfully during the period of his employment. He is to get an Assistant from the State Service, who will work under his guidance and influence and will be trained up for the position which will be offered to him in the event of his acquiring the adequate training on the expiry of the term of the Special Educational Officer. The Department will consist of an Inspector of Schools with a salary of Rs. 250 rising to Rs. 400, three Deputy Inspectors on the following scale:—1st Grade Rs. 150, rising to Rs. 175; 2nd Grade Rs. 125; rising to Rs. 150, and third Grade Rs. 100 to Rs. 125 but this will only come into force after the Special Officer completes his work within the prescribed period.

The Principal's scale of pay which carries with it a free house is not to be interfered with at present, but with the introduction of the hostel the scale is to be raised from Rs. 600 to Rs. 750. The Senior Lecturer's pay is fixed at Rs. 200 rising to Rs. 300, and there are to be four Junior Lecturers on Rs. 150, Rs. 125 and two on Rs. 100 each. One of the Junior Lecturers drawing Rs. 100 is also to be the Headmaster of the High School. A sum of Rs. 10,000 will be provided for improving the equipment of the Etnakulam College and High School attached to it with scientific apparatus, laboratory, etc. in the Budget of Rs. 1,084. The Sirkar High Schools will not be interfered with till the question of restricting the number of classes in each form and other allied educational subjects are disposed of, but a separate teacher will be appointed for Form VI for each High School on Rs. 65 to Rs. 75 to help the Headmaster, so that the latter could spend more of his time in supervision, according to the Madras Educational Rules. The Dewan further adds that the High Schools now maintained and schools now ordered to be raised as High Schools will be equipped as model schools of the State when the Special Educational Officer submits the scheme of re-organization. A sum of Rs. 2,000 will be provided for improving the equipment, etc., of the High Schools. The Palace School at Tirupittura will be abolished as soon as the District School is converted into a High School and adequate arrangements are made for the transfer of the princes to the High School. The pupils of the backward classes, if any, in the District School at Tirupittura will be removed, and the Dewan intends opening a Primary School exclusively for them. The Headmaster of the Tirupittura High School will be ex-officio special tutor to the princes with an

additional allowance of Rs. 150, which will leave him a consolidated pay of Rs. 275 per mensem. This allowance is to be debited to the Palace Funds. The necessary provision to open an Industrial School at Trichur will be made in the Budget of 1084. To improve the Sanskrit Patasala at Tirupittura and to encourage Sanskrit learning a special grant of stipends and scholarships will be given to deserving Sanskrit students. With regard to female education all vernacular Village Girls' Schools will be declared free, and special arrangements are to be made to supply such schools with music and needle-work mistresses as well as teaching kindergarten, drill and action songs. Six Village Girls' Schools are to be opened and the necessary provision will be made in the Budget for 1084. No fees will be levied up to 4th class in the above schools. With a view to increase the supply of fully-trained female teachers, four scholarships will be instituted, two in the Lower Secondary and two in the High School Departments. The Lower Secondary Scholarships are to be trained in the Trichur Jubilee Girls' High School, to which a training class will be attached and the other two scholarships will be given only to Mariculates to be trained at Madras.

The Dewan further contemplates the opening of schools exclusively for backward classes in all convenient centres. At present only five such schools are to be opened, including the one at Tirupittura already referred to. He further considers that the Ernakulam Chief Engineer is to be requested to draw up plans and estimate for the hostel to accommodate 50 students. Trichur is to be next place for developing the hostel system, for which provisions will be made in the P. W. D. Budget of 1085.

INDIA (GENERAL.)

The Secretary of State has sanctioned the raising of the status of Cotton College, Gauhati, to a First Grade College, and the inclusion of the Principalship in the Indian Educational Service, on a pay of Rs. 500 to Rs. 1,000 monthly.

The Government of India have sanctioned the award of a State Technical Scholarship to Mr. V. Govindan Nayar to enable him to study, in England, textile chemistry as applied to the dyeing, bleaching, finishing and printing of textile fabrics. The institution at which the scholar is to pursue his studies will be selected by the Secretary of State.

At a Committee meeting of the Ceylon Social Reform Society it was announced that the Society has entrusted its President, Mr. Donald Obeyesekere, with the duty of bringing out a "History of Ceylon" in English with a view to introduce it into the English schools of the island, where the study of Ceylon History is neglected. It was also resolved

to assist Sinhalese and Tamil authors to print and publish works of approved merit.

In reply to questions by Mr. Rutherford and Mr. Keir Hardie with reference to the necessity of coming to England for examination excluding qualified Indians from the Medical Service, Mr. Buchanan admitted that they were under a disadvantage, but mentioned that it was not contemplated to alter the arrangement.

Foreign Notes.

GREAT BRITAIN.

The Fishmongers' Company has given £1,000 towards the fund for carrying out the incorporation of King's College with the University of London.

The late Mr. C. H. Monro, M.A., Fellow of Gonville and Caius College, Cambridge, has left to his College about £35,000.

GREEKLESS Greek literature is a subsidiary subject now recognised in the Birmingham B.A. course. The work consists in getting up English translations of Plato, Homer, and the tragedians, the underlying idea being that some valuable knowledge of the spirit of Greek literature may thus be gained by students who have had no opportunity of learning the language.

At a recent meeting of the Consett Education Committee several members complained of the practice of the teachers in giving the children a considerable amount of home-work to be done under the supervision of the parents after school hours. The practice was generally condemned, the Chairman remarking that if the teachers wanted the children to be taught more they should do it themselves.

MR. REES asked the Under Secretary of State for India whether the Senate of Madras University had decided to institute courses of study in Oriental learning; and, if so, whether he would deposit in the Library the papers relating to this departure.

MR. BUCHANAN: The Hon. Member has no doubt seen the full reports of the discussion in the Senate, ending in a decision to the effect stated, which have appeared in the Indian newspapers. The Secretary of State regrets that he has no official papers which he could deposit in the library as suggested.

AN "Asquith Scholarship" of £100 a year tenable at Oxford or Cambridge has been founded by the Court of Common Council at the City of

London School to commemorate the promotion of the school's most distinguished "old boy" to the Premiership.

VINCOUNT Morley of Blackburn is being overwhelmed with academic honours. Not only has he been elected Chancellor of the Victoria University, Manchester, in succession to the late Duke of Devonshire, but he is also to take Sir Henry Campbell-Bannerman's place as Liberal candidate for the Rectorship of Glasgow University.

COMPULSORY education up to seventeen is one of the provisions of the Education Bill (Scotland) which was read a second time in the House of Commons. The School Board is given power, in issuing exemption certificates, to impose as a condition of exemption such attendance as it shall prescribe, after the age of fourteen and until such age not exceeding seventeen years as the School Board shall think fit, either at a day school or continuation class, or both. The School Board must provide continuation classes, and may make, vary, or revoke bye-laws regulating attendance at continuation classes. It is made a punishable offence to employ a boy or girl at any time when his attendance is by any bye-law required at a continuation class.

THE old Liverpool Lyceum Library, in the Bold Street, Cambridge this year celebrated its 150th anniversary, and a part of the celebration was a great gathering in the Philharmonic Hall recently to hear an address by Mr. Birrell. It was announced from the chair that the title of the address was "Old Days in the Lyceum Library," but Mr. Birrell, with pleasant license, talked first about old days in the Philharmonic Hall. One Philharmonic Hall scene he recalled was associated with Charles Dickens.

"Simply to see Dickens was in itself an occupation. I believe a more animated countenance than his was never placed on human shoulders. Garrick's may have equalled it, probably did, but I don't think it could have surpassed it. Dickens came here—being, like others, a good-natured man—to give away certificates to some school of art. You can picture the scene—piles of certificates, rows of young ladies, all bows and smiles, the reading out of the names of the successful candidates by Dickens on the platform. On his marvellous face my eyes were riveted all the time. Suddenly I observed a strange gleam in his eye and noticed a momentary hesitation in reading out one particular name. And then out the name came, ringing through this hall. What do you think the name was? It was—Miss Weller. (Laughter). Can you conceive the situation? A crowded hall, all sorts and conditions of people—young and old, rich and poor, gentle and simple, merchants and craftsmen, and the policeman at the door—and all in an instant, at the mere pronounce-

after mentioned, beginning, as far as the compulsory subjects are concerned, on the

It shall be held at such places as may, from time to time, be notified.

2. *Objects for which instituted.* The Examination has been instituted to test the attainments of pupils at the close of a secondary school course.

3. *By whom to be conducted.*—The examination shall be under the control of an Examination Board consisting of the Director of Public Instruction as President, four officers of the Indian Educational Service and three members appointed thereto by the Syndicate of the University of Madras.

The members of the Board shall be appointed for a period of three years and shall be eligible for re-appointment.

The Secretary to the Commissioner for Government Examinations shall be Secretary to the Board.

The Board shall arrange for the conduct of the examination in accordance with the provisions of this notification.

4. *To whom open.*—The examination shall be open to pupils who have completed a course of instruction in a secondary school provided—

(i) that the pupil shall have completed the age of 15 years on or before the first day of the month in which he appears at the examination;

(ii) that the pupil shall have been in one and the same school during the school year immediately preceding the examination and shall have been a pupil of a recognised school for a minimum period of two years;

(iii) that the school or schools attended by the pupil throughout the course of instruction shall have been recognised by the Director of Public Instruction as providing an efficient course of instruction in the subjects selected by the pupil;

(iv) that the pupil produces a certificate in the subjoined form signed by the headmaster of the school he is attending at the date of applying for admission to the examination:—

I hereby certify that.....has attended.....not less than 120 days of the previous school year, that he has completed a course of instruction in the following subjects.....and that his conduct has been satisfactory.

5. *Private candidates.*—Candidates who have not attended any recognised school during the period specified above in Rule 4 will be admitted to the examination only under exceptional circumstances, such as physical inability to attend school or other causes sufficiently proved in the opinion of the Board to excuse non-attendance. The Board will decide all such exceptional cases on application specially made to it. Such application must contain a full statement of the case and must be submitted so as to reach the Board on or before the.....of the year in which the examination is held, accompanied by a satisfactory certificate of good conduct and the prescribed fee which will be returned if the application is rejected.

6 *Subjects of examination.*—The following will be the subjects for the examination:—

Compulsory.

1. Arithmetic.
2. English.
3. The Vernacular.
4. History of India and General Geography of the World.
5. Elementary Physics.

Optional.

Any two of the following subjects:—

1. An additional language.
2. History of England.
3. Chemistry.
4. Mensuration and Practical Geometry.
5. Book-keeping.
6. Commercial Arithmetic, Correspondence, and Geography.
7. Shorthand and Typewriting.
8. Botany.
9. Agriculture.

Female candidates may present Hygiene and Domestic Economy, Botany, Music or Typewriting with or without Shorthand.

Drawing or Manual Training may be added to any of the subjects.

7. *Publication of results.*—The Director of Public Instruction on the recommendation of the Board will publish the results of the examination in the *Fort St. George Gazette*.

OUR ENGLISH LETTER.

BRISTOL, March, 1908.

The Education Bill has come at last. Mr. McKenna launched it upon its dubious course in a speech that was in singular contrast to that which entranced the House two years ago. There was nothing of the literary finish, none of the splendid indiscretions that marked Mr. Birrell's speech. To Mr. McKenna it was a matter of business, and his speech was short and practical. He employed none of the arts of oratory but, showed a useful gift of lucid exposition though here again he fell short of the masterly skill displayed by Mr. Asquith three days later in introducing the Licensing Bill. What is to be the fate of Mr. McKenna's Bill? It is significant that an attempt has been made to weaken the control of the Lords by making the essential clauses of a financial nature. The Lords wrecked Mr. Birrell's Bill, as Mr. Birrell has not yet forgotten, if one may infer anything from covert references that fall from his lips on the public platform. Twice he has been their victim. Mr. McKenna is trying to win a victory over them by avoiding a conflict at all as far as possible. And he regards this as a last attempt at a reconciliation of the ecclesiastical interests involved. 'If we fail once more, if we continue to disagree, we shall have given the most powerful impetus in our generation to the opinion that religious education in the schools is a last cause.' This is an ultimatum. What grounds are there for

hoping that this suggested compromise will find acceptance? We shall see this best from a brief revision of the proposals made in the Bill.

'Down to 1902, and to-day, there are two kinds of public elementary schools—the provided and the non-provided. It is proposed that there shall be but one type of public elementary school, provided by the public, managed by the people, and with the teachers appointed without religious tests.' This is the cardinal principle of the Bill as Mr. McKenna stated it. Only one type of public elementary school, but alongside of these schools there are to be found others—voluntary schools which have availed themselves of the privilege of 'contracting out.' By this means they will retain their old denominational privileges. Tests for teachers and special religious teaching will be open to them. They will be obliged to keep their standard up to that of the public schools. The Board of Education will maintain a strict supervision by means of inspectors—under a Liberal administration at any rate.

Another main feature of the Bill is the increased aid that the Treasury is giving. A new scale of grants is to be adopted which will amount on the average to £2 7s. per child. This will mean an increase of from four to six shillings a child and will entail an additional expenditure from the Exchequer of a million and a half. This will go far to relieve the overburdened local authorities. And inasmuch as the average Briton protests even more loudly against rates than against taxes this fresh grant will be welcome to everyone but the Chancellor of the Exchequer whose battle for economy is proving so severe. Thus the Bill provides for the co-existence of two entirely different types of schools. In single-school districts the school must be a public one, and this gives the Nonconformists what they have so clamorously demanded. But in districts where there is a choice of schools, the interests of the voluntary schools are to be studied. There can no question of the fact that they are hard

scicists like Faraday and Tyndall have imparted scientific ideas to untrained minds. Though arguments begin with the observation of general phenomena or technical applications of physics, the laboratory must be held up as the final court of appeal for the settlement of all doubtful questions. The student must be made familiar by means of concrete examples with the many forms in which scientific method may be used. The teacher must endeavour to train the student to observe carefully and accurately first the familiar things about him and then the things in the laboratory, to detect analogies and similarities among the things observed, to keep his mind free from bias and draw conclusions tentatively; to see the value of verifying conclusions and examining whether the results confirm or contradict his inferences. In short, the aim of teaching science should always be to develop and foster the habit of scientific thinking.

In a recent address to teachers on manual Scouting as a occupation Professor Patrick Geddes, a well-known authority on Nature study, recommended his hearers to procure General Baden-Powell's *Scouting for Boys* and to make use of it in connection with their lessons in Nature study. This book by a distinguished soldier describes a many-sided game—peace-scouting—which has a high educational value, because it involves a close training in observation. The boys are shown how to follow up the tracks of animals not with a view to kill or startle but to observe their habits; how to find their way across country by all kinds of indications; how to judge weather signs; how to estimate heights and distances; how to use a compass; how to make a map; how to find his way by night as well as by

day in a strange country; how to put up tents and huts; how to make temporary bridges; how to lay and light a fire in the quickest way and with the fewest number of sticks; how to prepare food that is at the same time tasteful and nourishing. All these, no doubt, can be taught in the class room, but to the ordinary boy the difference is great when he learns them not as a student in-doors but as a member of a party of scouts or explorers. Peace-scouting has also a moral side. First-aid and life-saving form important parts of the training. The whole aim of the Boy Scout's training is to train boys to use their eyes, brains and hands, to foster feelings of comradeship and helpfulness, and to develop ideals of discipline. Every teacher will find this book a mine of wealth for getting hints as to how to manage his students.

Though the report of the Committee of the School Final Examination which sat last month at Ootacamund has not been made public, we are glad to learn that in its deliberations the Committee was anxious that education should not be subordinated to any considerations of examination and that greater weight should be placed on the opinion formed of a boy's capacity by the masters who have moved intimately with him in his school career. We think that the teachers of a boy are the persons who can really understand his ability and judge his fitness for a university or technical career. The outside examiner may sift out one type of inefficient but he cannot select the fittest and train them effectively for their specialised work. Beneath a system of examinations China has sunk into atrophy. The pressure of the examination system in India has de-

generated the Indian graduate into a dyspeptic and diabetic. In all civilised countries the examination system is going out of favour being supplanted by selection by teachers, who have had the candidates under their personal observation in classes or laboratories for years. If all our schools were as well organised as the German schools, and our colleges as well organised and staffed as the universities of Germany or America, we could entirely dispense with the system of public examinations. It is the outside examiner who makes the crammer.

We learn that the Government of Madras will hold in September next an Industrial Conference for considering measures for the promotion of technical education. We fear that all attempts to promote technical education would prove futile, unless it is based upon a proper system of elementary education. In India only 98 per 1000 males and 7 per 1000 females are able to read. Is it possible that in these conditions industries and arts can develop in India? If funds are not available for giving elementary education to the masses and imparting professional training in continuation-schools, a fund can easily be raised by imposing a tariff on imported manufactured articles, for which India abounds in raw products. If, as is often proclaimed, the British have for their aim the governing of India for the good of its inhabitants, the Government must find some means of removing the greatest blot on its administration, namely, the lack of proper provision for the elementary education of India's children. At present the money spent on education in India amounts per annum to 1½ anna per head of the children of school-age. Can not the foreign Government in India place more confidence in the Indians and spend less on the military administration

of the country? In a recent lecture at Oxford Mr. Haldane appealed to the universities to bear their part in the great duty of preparation for national defence. May not the Indian universities be expected to play a similar part and thus effect a saving in the military expenditure, which might be utilised for promoting education? May not also some saving be effected by employing Indians in the place of Englishmen who are brought out from England at an almost ruinous cost? Till some means is devised for promoting elementary education, the industrial regeneration of India will not be an accomplished fact.

A recent report of the Association of College Alumni of the United States contains the following interesting statement:

"There are now in the United States retired teachers drawing for the remainder of their lives 2000 dollars per year, and upwards from the Argentine Republic, and next year will see a native of Erie County added to their number. The occasion of the retirement of a teacher is made the crowning day of his life. Greater honors could hardly be shown a human being. Moreover, there is the disposition as the term of service draws to a close to advance the salary so that the teacher may retire on a larger pension. Is it surprising that one will forego the larger financial gains of other professions to follow teaching under such conditions? Is it surprising that with men and women of eminent ability and high character to develop an educational system that affords the most thorough training for every child, even in the most remote valley of the Andes, the Argentine Republic has made such phenomenal advance, or that, in matters where intelligence counts, such as educational facilities, free

libraries, public sanitation, pure food and water supply, and low death rate, Buenos Ayres leads New York? Liberality in education has proved to be the truest economy and the wisest state policy."

Contrast with this the manner in which the Government of Madras appreciates the work of the teachers. In December 1906 the members of the Madras Educational Conference memorialised the Government to appoint an educational officer to formulate in consultation with representative educationists and an actuary, a definite scheme for the establishment of a Provident Fund for teachers in schools under private management. After a period of eighteen months the Government has seen its way to depute Mr. J. H. Stone to devise a scheme for a provident fund for teachers with the special proviso that the Government do not bind themselves either to provide for the management of the fund or to contribute to its aid. We think this step-motherly attitude of the Government to be wrong. Two conditions seem to us to be absolutely necessary for the success of a provident fund for teachers in schools under private management. Firstly there must be a regulated scale of minimum salaries, and secondly the fund must be entirely managed by the Government. Compliance with the rules of the fund must be made a condition of recognition. Though managers and teachers contribute to the fund, it is not necessary that they should have a voice in its management. Contributions by managers must be made compulsory in the interests of education so that teachers may not lose any of the benefits of the fund by transfer from one school to another. If the Government are not willing to manage the fund, the work of

management must be made over to some public body of teachers, like the Madras Teachers' Guild, or the South Indian Association of Teachers, which it is hoped will come into existence by the end of the current year. If each school is left to have a fund for itself, it is likely to prove prejudicial to the interests of teachers. Any scheme formulated must be universal in its scope. To make the fund successful and attractive to teachers the Government must make an annual contribution, even though it may be small. This together with any lapses may serve to form the nucleus of a bonus fund. We hope the question will now be taken up in right earnest by the Madras Teachers' Guild and some beneficial result will soon see the light.

Indian education has of late become the subject of adverse comment in certain leading English periodicals. The system of education now obtaining in India is in its essentials the result of the educational policy laid down by Macaulay in his famous despatch of 1833. Whatever defects this policy may possess, its underlying principle can not be questioned by any educationist. To hasten the natural death of expiring errors and accelerate the progress of truth was the sole aim of Macaulay, and this, indeed, is the fundamental principle of all true education. For what is education but the correction and completion of the shallow and narrow experience of the individual by the wider and deeper experience of the human race? With this view Macaulay devised the present system of education, by which it was thought possible to wean the Hindus from their erroneous traditions and customs by teaching them Western science, philosophy and literature though the Medium of the

English language. The rigid pursuance of this system for nearly two generations has been productive of very beneficial results. It has made the Hindus lose their exclusiveness, engendered a feeling of national unity, created a desire for democratic forms of government, opened their eyes to free themselves from the shackles of caste and priestly tyranny. All these Macaulay anticipated, and he even frankly avowed that the chief duty of the English in India was to train the children of the soil for self-government, and that the successful achievement of this task would be the most glorious event in the annals of the British nation. But times have changed. A new feeling among the Anglo-Indians looking down at these results with disfavour has sprung up. The spirit of discontent now visible in India, which is no more than the natural sign of a healthy growth, appears to them as prejudicial to the interests of the English. They are denouncing Macaulay's educational policy, which has been so fruitful of results. They aver that the Hindus should have been left to evolve themselves on the basis of their own traditions. We fear they are mistaken in their views. Had the Hindus been left to their false traditions, the result would not have added much to the glory and prestige of England.

In connection with the debate in the House of Commons on the Irish Catholicism and education. University Bill, the aim of which seems rather to endow conflicting creeds than promote education, the question of the fitness of Catholics to further university education was raised. The Secretary of State for Ireland laid stress on the valuable service

rendered by a Catholic priest to the University of Calcutta. The Secretary for Ireland need not have gone so far away from home in search of examples. He could easily have found examples among French, English and German Catholics, both lay and clerical, who have made contributions to science. The existence of such men within the Catholic fold is an argument often employed by the Catholics to show that Catholicism is in no way enmical to science. Still it must be confessed the total contribution of the Catholic world to science is qualitatively and quantitatively far inferior to that of the free investigators outside the Catholic church. The fact is there, and we need not at present enter into the reasons for it. The latest encyclical of the Pope can not but make the production of free untrammelled scientific work more difficult within the Catholic fold. If the chief characteristic of university teaching is the freedom to teach and the freedom to learn, we can not see how Catholicism would tend to promote university education.

A great meeting of teachers was held recently at Braunschweig in Germany. It dealt with scientific questions and matters of professional interest. They demanded complete equality with lawyers in respect of pay and social rank. It may interest some of our readers to know that in some parts of Germany the schoolmaster and the judge are on the same level. This is natural, seeing that the schoolmaster renders as valuable service to the state as the judge. We are even inclined to think that the schoolmaster renders greater service as it is he that trains men for citizenship. Another important resolution passed at the meeting was that the

number of pupils in a class should not exceed, in the upper classes 25, in the middle classes 30, and in the lower classes 40; and that in no case should there be more than 500 pupils under one headmaster. In Germany the boarding school is not viewed with favour, and this meeting of teachers has expressed the opinion that a headmaster, who has more than 500 pupils under him, proves more to be the administrator of a system than a true teacher exercising a personal and direct influence.

In training colleges Rousseau is taught as a great educator and his precept and practice. innovations are admired and praised. But when

one attempts to put these innovations into practice, what is the result? An experienced teacher, who had written for many years on the subject of education, brings up his children in North-west London in the most approved Rousseauite manner, and he is hauled up before the magistrate for putting well-known precepts into practice. Such things are not unfamiliar to the licentiates of teaching of our universities. Though they receive instruction in the various methods of teaching in their training colleges, they dare not violate routine methods for introducing something better.

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MATTHEW ARNOLD ON CRITICISM.

According to Matthew Arnold, the function of criticism is to enable us "to see the object as it really is." With this somewhat vague definition, Arnold proceeds to make a comparative estimate of the creative and critical faculties. And though he admits the inherent superiority of the former, and lays stress on the fact that the power to grasp the best ideas of the time is an essential condition of the successful exercise of either faculty, and that the creative faculty implies a great critical effort behind it, yet, he argues the possibility of the exercise of the creative faculty in the domain of criticism, and observes that, at certain epochs, it is impossible to exercise the creative power in the work of production. In presenting this theory—for it is nothing more—Arnold gives us no convincing proof of its sufficiency.

Arnold says that, at certain epochs, this extraordinary power only flowers in the form of criticism but does not bear fruit in the shape of creative literature, and his explanation of this strange phenomenon is amusing, if not instructive. Arnold would attribute the absence of creative work to the want of a current of the best ideas as materials for the creative genius to work upon. This explanation is unsatisfying inasmuch as every century, nay every decade, has a current of its own

best ideas, ideas peculiar to itself and characteristic of itself, and awaiting interpretation at the hands of genius. It is not to be denied, it is true, that the best ideas of a certain epoch may surpass in their truth and beauty those of another epoch, and that the creative work of the latter period may suffer in proportion; but to place, as Arnold does, the adventitious aids of time, place, and circumstance foremost, and relegate to the background the superior faculty which interprets ideas with consummate art, betrays a lamentable sense of proportion. Arnold adopts the same unsatisfactory attitude in his essays on Gray and Heine, and he explains Shakespeare's genius partly, at all events, by saying that he lived in "a current of ideas in the highest degree animating and nourishing to the creative power; society was, in the fullest measure, permeated by fresh thought, intelligent and alive." This, again, is mere fancy. Perhaps the correct interpretation of the nature of the influence of Shakespeare's environment is in the strain of another modern critic:—

"Unfortunately, Shakespeare dropped into the middle of these ruffianly pedants (the Elizabethans); and since there was no other shop than theirs to serve his apprenticeship in, he had perforce to become an Elizabethan too. In such a school of falsehood, bloody-mindedness, bombast and intellectual cheap-

ness, his natural standard was inevitably dragged down, as we know to our cost."

A much simpler and more satisfying explanation of the paucity of creative genius lies in the fact that the creative faculty is considerably higher than the critical power, infinitely more difficult to exercise with success, and therefore, in the nature of things, rarer.

In this connection, Arnold makes mention of the phrases, "the power of the man" and "the power of the moment," and interprets the latter to mean "the age in which the man lives," with the object, apparently, of illustrating his theory that for successful creative work "the power of the man and the power of the moment must combine." But the phrase cannot be so interpreted without straining it. It is commonly and rightly understood in its literal sense, to mean the happy moment of inspiration, when the mind is in a state best adapted for the exercise of its creative faculty.

Arnold says that criticism is a preparation, a prelude to creative work. This is far from being true in every sense, or in any sense. The epoch of criticism succeeds, and does not precede that of creative work. The work must be there before the critic can apply his canons and tell us what it is and whether it is true. This is why the ancient times were mainly periods of creative activity, and the modern spirit is one of criticism. Surely, the object must be present before the critic can see it as it really is? Perhaps Arnold wishes to emphasize the salutary effect of the tone of censorship which criticism assumes in its lower and less artistic aspects. It is true that criticism may help us to cultivate our taste and lead us to a right and intelligent appreciation of great works of literature and art, but

it is very doubtful if any amount of criticism will ever succeed in laying down the lines on which creative genius is to work; and if this is to be the end and aim of criticism, as Arnold evidently suggests, it is unlikely that it will ever achieve its object. Creative genius is *not*, and can never be "cabin'd, cribb'd, confin'd," by the whimsical canons of eccentric critics. As A. Suard says:

"L'homme de génie est comme Gulliver au milieu des Lilliputiens qui l'enchaînent pendant son sommeil: en se réveillant, il brise sans effort ces liens fragiles que les nains prenaient pour des câbles."

It is little affected by the conventionalities, the idiosyncrasies, and the tendencies of the age in which it ~~works~~. It stands on a loftier standpoint untainted by any base influences. It may reflect its time; it may anticipate its age, or it may resuscitate the old-world ideas and ideals. It is the crowning glory of genius that it influences and is not influenced.

The proper sphere of criticism is to analyse the elements of the mysterious work of genius, to explain its possible origin and development, to find out what there is in it of truth and beauty, to estimate its usefulness for the present time, and to judge what are the elements in it that make it a monument for all time.

Not only is Arnold's theory advanced in his essay on the function of criticism at the present time, false for all time, but his *manner* (to adopt Arnold's classification of *matter* and *manner*) of expounding it betrays him into the very faults against which he warns the unwary critic. He seriously advises the critic never to let himself become abstract. Arnold is the worst sinner in this respect, for what can be more abstract than Arnold's criticism? We need go no further than to his definitions to find instances. Poetry, Arnold defines, is "a

criticism of life under the conditions fixed for such a criticism by the laws of poetic truth and poetic beauty." Can anything be more abstract and unintelligible than this jugglery with words?

Arnold is an advocate and not a judge in the court of criticism. In his essay on the function of criticism, for instance, he starts by charging Wordsworth with want of reading (quite pardonable in a School Inspector!), but anticipating that the instances of Pindar and Shakespeare may damage his point, he buttresses his position with another theory no less extravagant, viz., that the latter lived in an animating atmosphere. By having recourse to this kind of strategy, he does not strengthen his position, but weakens it, by having to defend two statements instead of one. His explanation of the French Revolution in its relation to literature is a similar attempt with a similar result.

Another objection to Arnold's arguments is that he does not discriminate between the apparent meaning of statements and their real import. Sir Charles Adderley and Mr. Roebuck had spoken to the farmers and the cutlers in a vein of exuberant self satisfaction, and Arnold takes these utterances (post-prandial probably, and to be heavily discounted) seriously enough to refute them, and to consider them as representing the trend of the highest English thought.

In one place, Arnold quotes, with evident gusto, Burke's *Thoughts on French Affairs*, in which Burke states an evil, but does not propose to apply his remedy. I quite agree with Arnold that it shows Burke's artistic grandeur. But what a contrast to this is Arnold's prophetic, and almost obligatory importance which he attaches to his views, as, for instance, when

he talks of the "course which criticism must take." *Must* indeed! One may as well talk of the course a river *must* take!

We all aspire for the highest culture, but that classical and ultra-refined ear which finds in the monosyllable *Wragg*, "a hideous name showing the original shortcomings in the more delicate spiritual perceptions" is unfortunately denied to us common mortals, and when a critic, with the tone and temper of Matthew Arnold, condescends to enlighten us, we cannot allow this assumed superiority to pass unchallenged, and we suspect the presence of as much Philistinism in the teacher as is levelled at the taught. "We are all *terrae filii*, all Philistines together."

What new truths does Arnold teach us in this essay on the function of criticism? He gives us a vague definition of it, illustrates it by theories unsupported by facts or reasoning, is led into side-issues which, if they illustrate anything at all, illustrate the writer's incoherence and irrelevance, and betray him into remarks which no self-respecting, not to say cultivated man, would be guilty of, and winds up with worn out platitudes about a wide knowledge and disinterestedness as the main qualifications of the critic. Such, in brief, is the substance and method of a critic who holds, I believe, an eminent place in the ranks of modern English criticism, and who poses as an Apostle of Culture!

U. SUNDEIER.

COMPARATIVE ADVANTAGES OF A CLASSICAL AND SCIENTIFIC EDUCATION.

THE object of education has well been defined as "the training of all the faculties of a boy on every side of his nature, developing in him every intellectual and moral power, and strengthening him physically, emotionally, mentally, and spiritually, that he may become at the end of his college career a useful citizen and pious gentleman." Now let us see whether it is Classics or Science that contributes more to the turning out of such an accomplished individual. The conflict between Science and Literature is almost as old and as vexed as that between Science and Religion. Both have equally staunch advocates of their own. Among the pioneers of each there is considerable difference of opinion whether one should dive deep in Classics (Greek and Latin) or in his own language and some other modern literature and whether one should study one branch of Science only or taste the upper crusts of all and be master of none. However instead of going into these details let us consider the main points only.

With the advance of science and civilization the object of education is greatly changed. For a considerable period of time in most of the European countries the cultivation of classics was regarded as absolutely necessary for a gentleman's education. A man innocent of Greek and Latin was regarded as an uneducated man. So a fair knowledge of these two languages formed an essential part of the syllabus of the old Universities. For, an acquaintance with these was felt for by all even in their ordinary conversation and discussion; and thus the

study of this literature gave them a certain definite strength and refinement of thought and so the culture of the intellect always implied a sound knowledge of Greek and Latin. By such training they obtained "rigour and delicacy of thought and refinement and polish of expression." At present in England these languages are gradually "falling out of general education." In England among the younger generation one hardly comes in contact with such able and cultured men (in the old sense of the term) as were often found a few decades ago. "So society becomes more and more frivolous and less and less thoughtful and you get numbers of people with only average intelligence who have little chance of ever improving it to the best advantage because of the loss of higher mental culture."

As physical science has advanced letters are slowly deprived of the great place they had for a long time occupied in the estimation of an ordinary man. Many slight letters as the "vague and unexact instrument of shallow essayists and magazine-writers." Let the friends and supporters of physical science derive and deprecate it strongly and persistently but they must remember that even in this shallow work of theirs they have to bow down to letters. For they cannot slight letters in a vehement language unless they are masters of it (language). As the struggle for existence is becoming keener the attention of the great mass of people with a considerable number of men of parts is attracted by science. For they vividly see the results of science shining before them and nothing but that which feeds and comforts them is taken care of by them. Though the influence of literature is so great, it is slow and silent and far above the perception of a great many

commonplace individuals. From a utilitarian standpoint, it is true, that literature occupies a place below science. But then we lose sight of the noble object of education. "It is not the question of training a young man so that he should learn exactly those things and no others, that he can turn then into opportunities for wealth-gathering in after-life." The aim of education is to send out into the world a man of culture; and what is culture but "to know the best that has been thought and said in the world." Culture of the intellect is one of the most important duties of man. For intellect is a faithful guide and clever companion and by virtue of its possession alone that he is throned above all lower creatures. It is in literature that we find things lovely, things that exert great influence on our mind, and things that are so important in the moulding of life. One must cleave to such great works of world-renowned thinkers as Socrates, Goethe, Carlyle and Emerson, which are the fountain-heads of great ideas and noble thoughts; it is by the careful study of these "when the mind is as wax to receive and marble to retain" that our character is formed. One's love for the sublime can only be quenched by such passages in literature as are full of lofty aspirations and transcendent hopes. Goethe says "One ought every day at least, to hear a song, and read a good poem, see a fine picture, and, if it were possible, to speak a few reasonable words." One should never sit down with the gratification of the senses for they never aspire higher while the intellect which has the full power of imagination longs for higher and lovelier and almost superhuman objects. We must study such immortal literature not because of its practical utility as because it creates in us higher and nobler conception of life and its

functions and stimulates us to 'plain living and high thinking.'

Then again the imaginative works of great poets like Milton and Shelley appeal to our imagination and develop our imaginative faculty by constantly calling it into exercise. Literature is the gate-way of wisdom and knowledge. One should always bear in mind that man is not only a physical and intellectual being but as well an emotional and aesthetic one. We know how the thoughts of the great influence us and mould us. It is through their works that the great are immortal and it is through them alone that they converse with us, advise and direct us to the royal road of happiness from the thorny path we are treading on.

Science has its own advantages in no way inferior or unimportant. Some of the recent inventions and discoveries have totally changed the history of the world. As literature has become a subject of loathing to many science has also incurred the displeasure (almost bordering on hate) of a few. When new inventions were made people thought that they were worked by Satan and such eminent men as Galileo were persecuted as common felons. The older scientists had actually to fight for their lives for their fault of discovering truths. But Truth must ultimately triumph and we see the whole history of humanity in quite a different light.

In this age of science it is perfectly ridiculous to be ignorant of it. The life, the future, and the prosperity of individuals as well as nations depends on science. A country which does not take advantage of new inventions in science, has not her laboratories equipped with up-to-date apparatus, has not her industries worked on scientific principles, is bound to sink down in the long

run. Every nation has to fight an industrial and a commercial battle and that people alone which is much advanced in physical science and its appliances will be victorious and prosperous. America, Germany and England are the richest nations of the world and so maintain their population in plenty and comfort because they have learnt to utilise the gifts of science. Even from an individual point of view the knowledge of science is absolutely necessary. Will any one conceive the idea of a mechanic or artisan flourishing in this age without a full knowledge of his art and the recent inventions made in it? Unskilled labour is worth very little. Thus if not for anything else at least to maintain himself one has to study science.

It is not wise to consider science only from a utilitarian stand-point. It has her own charms. Every branch of it is very interesting and greatly adds to our pleasure, happiness and comfort of life. It helps us to spend the dull and monotonous hours of life pleasantly and joyfully; it has supplied a great many of our wants and has extended the bounds of human knowledge to a variety of new subjects. Everywhere we are surrounded by the triumphs of science. It has taught us the proper use of many things, things which we looked upon as useless. Sir John Lubbock says "where the untrained eye will see nothing but mire and dirt, science will often reveal exquisite possibilities." Without an intimate acquaintance with science it will be hard for us to observe "the real cause of natural phenomena, which are more striking and contain more true poetry, than those which have occurred to the untrained imagination of mankind." We are likely to overlook or undervalue many of its

wonderful gifts only because they have become so very familiar to us.

By the study of science some of the faculties of the intellect will be developed. It cultivates the power of observation which is wanting in so many, the method of close reasoning and quick understanding and grasping the difficult problems and theories with their innumerable skilful applications. It familiarises us to accuracy of judgment and concentration of attention and to the art of carefully weighing evidence and sagaciously drawing inferences. Many of the branches of science are so inter-dependent that to know everything of one we will have to know something of all. So unless one is accustomed to the proper method of arrangement and classification one is likely to confuse and confound all together. Archdeacon Farrar observes ".....I think that none of our sons should grow up wholly ignorant of studies which at once train the reason, and fire the imagination, which fashion as well as forge, which can feed as well as fill the mind."

Science has greatly promoted the welfare of mankind. The achievements and triumphs of science are as much the wonder and admiration of man as they are the promoters of his beneficence, well-being and power. It is by her help that great oceans are ploughed by admirable steamships, it is by her gifts that we are able to run such vast distances as 300 or 600 miles within a limited number of hours, again it is by her grace that we can communicate our thoughts and intentions to persons thousands of miles away from us, it is literally a Herculean task to name all her achievements. She has taught us how to utilise the different complex forces and recondite powers of nature to our own advantage and in our own service. "She has

laboured and her votaries have laboured, not to increase the power of despots or to add to the magnificence of courts, but to extend human happiness, to economise human effort, to extinguish human pain. She has lengthened life, she had controlled madness. She has triumphed over pain." She has effected many fundamental changes in the life we live and the civilization we boast of. She rightly demands the admiration and eulogy, for her marvellous inventions and discoveries, from the learned and the unlearned, the rich and the poor, the poet and the author. She has discovered the sources of several of the dire diseases which have been afflicting man, and abolished them completely so that they can never re-appear, lengthened life, and added immensely to our happiness and enjoyments physical as well as intellectual.

Thus we see for the harmonious development of all the faculties of man both the branches of learning are absolutely necessary. One will supply all his physical wants and the other his intellectual requirements. If he is more in need of food for his intellect only he may take up purely a literary course and shine among the galaxy of numerous resplendent men of letters, or he may as well be a student of science and occupy a high and honourable place in the pantheon of its votaries. In the selection of these two branches one should consult one's own instinct interests and inclinations. But at the same time one should not make a fool of oneself either by deriding and disdaining the other branch or keeping himself in total ignorance of it. For both of them give a wholesome variety of mental food and prepare us for the battle of life, Sir John Lubbock observes: "The boy who has been educated without any training in science has grave reason to complain of

'wisdom at one entrance quite shut out.'" By the pursuit of only one of these to the total exclusion of the other one defeats his own object in life, and finds himself at last in a land of despair and distaste. The systems of education in some countries (for instance our own) sacrifice everything else to classics and a foreign literature. It is true that 'smatterings are useless.' But all the same one must remember that to be well-grounded in a subject these smatterings alone become so very useful. We have every reason to complain that "our children are forced to stick unreasonably in the grammatic flats and shallows." "The entire nature of man" said Gladstone "is the garden which we need to cultivate." We should always aim high and towards wholeness. We must never cultivate only one side of our nature and leave the other to grow lean and initiated. One should not fail to get what is known as liberal education and then he may take up any subject he has an inclination towards. Let us always treasure up the following beautiful piece of advice:—"Each man is in himself a bundle of magnificent possibilities—physical, mental, emotional, imaginative, moral, spiritual,—and in the full and harmonious development of these possibilities lies his true dignity and his abiding worth."

V. GURURAJ KRISHNA.

PRACTICAL SCIENCE WORK IN SCHOOLS.

IN a recent circular letter to various High Schools, the Educational Department has recommended the adoption of a course of practical exercises in science for high school students. This they hope will be conducive of good results. The suggestion is certainly

one which can have nothing for it but commendation. That the Government are serious has been shown by the earnest money advanced by them to various schools. It behoves the authorities of different schools, therefore, to make such arrangements as will be found suitable to their schools. How far the arrangement effected will satisfy the end in view, time alone can show. But, as in everything else, there are certain main principles and methods that must never be ignored, and it is the subject of this article to point out what they are.

Firstly, before any provision is made for practical work, it must be settled what experiments are intended to be gone through by the students. Nothing is more ridiculous than to say that all the experiments demonstrated in the class should be repeated by the students in their hours for practical work. For example to say that students should do practical exercises with a ready made pyrometer, or with a glass model water pump, or with an air pump, and that therefore a large number of each of these pieces of apparatus must be indented for and obtained, is little short of absurdity. Such a statement deserves to be mentioned only to be despised. To avoid falling into initial errors it is imperative that this principle be clearly recognised. Costliness of apparatus is not the sole test for exclusion from practical work. In choosing experiments regard must be paid to two factors, *viz.*, illustration of certain fundamental principles and the limited time available for practical work. I shall revert to the latter topic later on. Further the experiments fixed upon must be such as will enable the worker to get fairly satisfactory results. This is very important, as otherwise, the performance of a number of experi-

ments, the results of which are very misleading, will only tend to foster a slipshod and careless method of working, and create a disgust in the work. These two evils must be carefully guarded against. Otherwise the very objects of introducing practical work, *viz.*, to create an interest in the subject, and to train the powers of observation, will be frustrated. It is hoped that the department will not be satisfied with the mere introduction of practical work in schools. What is more important is to gauge the effects of such a course, and how far it has been worked to attain the objects aimed at. Of course where inspecting officers have the requisite academical or other qualifications, they will be in a position to justly estimate the value of work done, to appreciate merit wheresoever it exists, and lastly, but not the least, to offer valuable suggestions for improvement. But where such persons are not, as is sometimes the case, so circumstanced, neither any pronouncement on the work done nor suggestions for betterment can be expected; and any expressions of opinion, even if unnecessarily indulged in, cannot be considered to be of great weight.

We have next to consider, what apparatus is required for practical work. This must be a simple affair if the experiments to be done have been definitely pitched upon. In devising suitable apparatus for different purposes, it must not be forgotten that most of the experiments required of the students are of a purely qualitative character, and only in a few cases they are of a quantitative nature. Even in the quantitative work to be done, attention must be paid to the question what degree of accuracy in result need be expected of an average student. If it is not a high degree of correctness of result that is wanted,

it is evident that a rough and simple form of apparatus will quite answer. A high standard of accuracy necessarily implies the use of a very sensitive instrument; so that where that is not desired we can well resort to a cheap and simple form of the instrument, ready-made or to be made. Needless to state, therefore, that the apparatus designed must be of the simplest nature compatible with the object we have in view. These remarks apply with equal cogency even to class experiments. That we need hardly indent largely for ready-made apparatus of a costly nature (except such as are indispensable, *e.g.*, balance, sets of weights, thermometers, prisms, lenses, etc.) will readily follow from the above. At any rate having obtained such things as are absolutely essential, the necessary fitting up and construction of apparatus can be done under the direction of the teacher in the majority of cases.

The educative value of such simple forms of apparatus is a point on which there can hardly be any divergence of opinion. Can anything be more pernicious than the effect of such teaching as produces in the minds of impressionable youths, an idea that science, at any rate its elementary principles, cannot be learnt outside the laboratory, and without the help of forms of apparatus whose cost is prohibitive and whose construction is complicated? To young minds complicated apparatus is burdensome with its minutiae, and throws into shade the principle involved. On the other hand, the knowledge that fundamental notions of science can be imparted with the help of simplest apparatus will, apart from its creating a lasting love of the subject, show in great relief the truths intended to be illustrated. It will train them to have an eye to the common place in science. It will

dispel any notion (not uncommon in immature minds) lurking within them that science belongs to the fairy borderland that separates the known from the unknown. It will enable them to cry in unison with the sentiment of Wordsworth when he says that "the meanest flower can give me thoughts that lie too deep for tears." Nor does science lose by its simplicity. Such severe simplicity only enhances the value of science. Can it be denied that the savants of scientific thought worked with apparatus which, at present, a school-boy would scoff at? Trained in the school of adversity and want, their intellects sharpened. The very defects of simple apparatus stimulate enquiry and draw out latent faculties. By the focussing of thought, shortcomings can be got over and better forms devised. Nor can it be said that education and experience so obtained are useless, and time so spent has run waste. While it cannot be maintained that paucity of ready-made pieces of apparatus of the manufacturer is a defect by itself, yet their absence coupled with efficiency of work turned out must amply testify to the resource and capacity of the teacher. Such work proceeds as right lines and will achieve the intended aim.

A recognition of the principles detailed above, will naturally result in a large share of the work devolving on the teacher. He ought therefore to be an enthusiast in his work. At the same time his hours of work must be cut far short for the satisfactory and conscientious discharge of his duty—a condition that is unfortunately conspicuous in our schools by its absence. The inspecting authorities will, it is hoped, bring pressure to bear upon institutions to carry out this reform. Failure to insure such a contingency will only lead to defective work, and the

teacher cannot be the subject of any blame on his part. No teacher who takes any interest in the subject must shirk this extra work so forced on him. But, with due reference to exceptional instances, a large number of teachers exhibit a love of ease, a lassitude, and a general disinclination to put life in their work. Sincere and animated instruction is an exception than the rule. Managers of institutions cannot be exonerated from their share of the blame. The present stagnation is the combined result of both. To a certain extent the educational training, teachers had received from their colleges, is responsible. The system, obtaining at present in colleges, of educating students to meet the bare needs of a University examination, with a culpable disregard to currents of modern scientific thought, work, and research, is at fault. Hardly can any intrinsic interest be created by such means. How far the present University reform will mend matters, is a thing that must be judged in its working rather than in its inception. Doubtless teachers may evince greater activity by offers of greater emoluments and provisions of better facilities. But the activity, manifested purely by monetary inducements, is certainly not the activity of one who works with a burning love of the subject, and an ardent desire to benefit those to whom he has to impart instruction. It may then be suggested that such of the apparatus as are constructed be done under the direction of the teacher. Perhaps students may also be asked to construct easy pieces of apparatus, either from things given them or by themselves at home. The chief objection to this is that any such possibility is precluded by the short space of time allotted for science work; and the student is burdened with other lessons

scarcely able to permit him to devote much time towards this at home. A trial may, however, be made in this direction and its effect observed.

Many difficulties, more or less insuperable, confront us in the actual and speedy execution of the project. The greatest obstacle is the unwieldy number of students to be provided for. In the three higher forms, the least an school can have is about 100, and the highest four or five times that number. The crux of the question is how to provide for such a large number, assuming of course that all classes do not work simultaneously. How should the laboratory be fitted up to make adequate provision for such a number? These are real difficulties whose cogency have not perhaps been fully felt by those who may have been responsible for setting the ball in motion. In the existing circumstances of most of our schools, the transformation desired cannot, even if the aid of Government be counted upon, be effected without an Herculean effort on their part. Considered in this light, those institutions, who might have decided against the recommendations of Government, cannot in fairness be said to have fought shy of the question. There still remains to be considered how many hours will have to be devoted to practical work. Cramped, as the syllabus for the Matriculation Examination is, an addition to the existing hours of work will be a serious strain both on the teachers and on the taught. The result of such a strain is only too certain to admit of doubt. Much less can it be found possible to curtail the hours of work allotted to other subjects. Insufficiency of the existing number of hours to deal with those other subjects, is a legitimate ground of objection. Any encroachment on the time set apart for the teaching of any other subject will be full

fraught with evil results. Perhaps a solution may be attempted by working the same number of hours but with shorter periods. This is no doubt an invasion on the times of all the other subjects; but being distributed over a larger area, the curtailment will, it is hoped, not be materially felt. If it is decided upon to introduce practical exercises both in Physics and Chemistry, three hours or at least three periods a week must be spent for that purpose, two for Physics and one for Chemistry. Regard being had to the scanty knowledge of the boys, and to their freshness for work, progress in the initial stages will be slow. Much work cannot be hoped for at that stage. Attention must be directed to the quality of work done, and to the methods followed. A meagre knowledge or rather no knowledge of subject, and the consequent impossibility of carrying out satisfactory work, may induce some to be of opinion that practical work may not be begun in the IV Form, but may be carried on in the V and VI Forms. It would however appear that if, as suggested by the Educational Department progressive lessons in elementary science be given in the lower forms starting with the I Form, it would not be impracticable to begin work in Practical Physics even in the IV Form.

The next question to be considered is how to arrange the students in their practical classes. Two ways may be adopted. *First*, all students may be engaged in the same experiment at the same time. The great advantages of this system are, the teacher can proceed with the least trouble, work can be easily and effectively checked, and instruction will be uniform. An additional advantage is that such a system will require the employment of the least staff. This plan is not however without its drawbacks. A

large number of sets of apparatus (both costly and cheap) will be needed, and this will involve increased accommodation. The initial cost would be very heavy. Further it must be remembered that all students at work will not be of the same calibre. As a natural result some may lag behind the rest, and hence the system of simultaneous work must to some extent break down. *Secondly* different experiments may be done by batches of 5 or 6. This will entail separate instructions being given to different batches. But, by supplying written instructions as to the method in which experiments have to be done or by a judicious use of a proper text-book for practical work, and by informing each batch what work they will have to perform at the next lesson, (and this is to ensure previous preparation), the above difficulty can be avoided. For effective supervision and control only a few batches (4 or 5) can be entrusted to a teacher. In consequence the staff will have to be strengthened. As a set-off against this the cost of equipment will be lessened. This system will also provide for the falling back of the less capable lot. For beginners it is perhaps necessary that all the class should be working the same experiment at the same time. When the student is reading the subject for the second time more advanced classes, aiming at more accurate results, may be conducted on the 'separate experiment' system. Entire discretion, to adopt either of the two courses or a combination of both according to the exigencies under which he has to work, must be left to the teacher.

Lastly as to the staff necessary for the proper carrying out of the scheme. In the first place the staff must possess the requisite qualifications, and the remuneration offered

classes from the highest to the lowest in respect of gradation of difficulties as regards the matter taught and in respect of uniformity as regards the method employed. Co-operation of the first kind is secured by a careful analysis of the work of each term for each class so that portions of subjects allied to one another can be taken up as far as possible simultaneously or in their natural sequence. Such a co-relation of similar parts of the curriculum with regard to time may be somewhat difficult of achievement, but this kind of inter-relation between kindred subjects in respect of their natural sequence can always be brought about. The arrangement of the work on such a plan as this will make the path of progress smooth and easy, because the same impression is repeated in as many possible ways as the kindred character of the subjects admits of. In many schools teachers pay no regard whatever to this important principle of co-relation in studies. The several subjects comprising the entire course are so taught that they fail to act and to re-act on one another; and therefore they prove in no way mutually helpful or beneficial. They often stand in solitary isolation disowning all mutual association.

Now, co-operation in the matter of uniformity of methods is only possible by all teachers following one and the same system of procedure deliberately adopted after a full discussion as to its merits. Every head-master must form an association of teachers for the discussion of questions concerning the best methods of teaching. Lectures and criticism lessons must be given and the subjects selected must be thoroughly threshed out in free discussion. Why is this system followed only by a few head-masters? Is it because they and their assistant teachers are over-

worked? Is it due to their being shy in public, due to the fear that they may lose their prestige and estimation in the eyes of their inferior colleagues? or, Is it due to sheer indifference and lack of interest in the work they have taken in hand? Well, it may be due to any or all these causes. But it is high time that these personages rouse themselves from their slumbering lethargy. If the teachers are over-worked, the manager and the headmaster must see that they have enough time and leisure to turn their thoughts and attention to subjects educational. Periodicals devoted to the discussion of educational topics must be supplied to them, libraries stocked with up-to-date works must be thrown open for their use, and other facilities provided to them—all for the purpose of stimulating inquiry, calling forth originality, improving their minds and widening their mental horizon.

M. A. ANANTA AIYAR.

PROBLEMS.

I. The hour-hand of a watch is midway in direction between the minute-hand and the second-hand: and the angle between the hour-hand and the minute-hand is equal to a given angle. Show that this will happen only once in 12 hrs. and that the given angle must be a multiple of $\frac{\pi}{365}$. [Madras M.A., 1908.]

Solution:—

Suppose that the condition in the question is satisfied t'' after all the hands point towards the same direction.

Now the angle between the hour-hand and the minute-hand in t'' after coincidence is

$$\frac{2\pi}{60 \times 60} - \frac{2\pi}{12 \times 60 \times 60} \text{ i.e., } \frac{11\pi}{6 \times 60 \times 60}$$

$\therefore$ The angle in t'' after coincidence is

$$\frac{11\pi}{6 \times 60 \times 60} \times t.$$

Again the angle between the hour-hand and the second-hand in t'' after they point towards the same direction is

$$\frac{2\pi}{60} - \frac{2\pi}{12 \times 60 \times 60} \text{ i.e., } \frac{719\pi}{6 \times 60 \times 60}$$

$\therefore$ The angle in t'' is $\frac{719\pi}{6 \times 60 \times 60} \times t.$

Now from the condition of the question we learn that

$$\frac{11}{6 \times 60 \times 60} \times t \times \pi = 2\pi - \frac{719}{6 \times 60 \times 60} \times t \times \pi.$$

$$\therefore \frac{730 t \pi}{6 \times 60 \times 60} = 2\pi.$$

$$\therefore t = \frac{2 \times 6 \times 60 \times 60}{730} = \frac{4320}{73} \text{ or } 59\frac{1}{3}.$$

Hence the event will happen only once in 12 hrs. and that at $59\frac{1}{3}'$ after all the hands point towards the same direction.

Again the given angle between the hour-hand and the minute-hand is

$$\frac{11\pi}{6 \times 60 \times 60} \times \frac{2 \times 6 \times 60 \times 60}{730} = \frac{11\pi}{365} \text{ which is a multiple of } \frac{\pi}{365}.$$

II. If $c(n, r)$ denote the no. of combs. of n things taken r at a time, prove that

$$1 - \frac{1}{4}c(m, 1) + \frac{1 \cdot 3}{4 \cdot 6}c(m, 2) - \frac{1 \cdot 3 \cdot 5}{4 \cdot 6 \cdot 8}c(m, 3) + \dots = \frac{3 \cdot 5 \cdot 7 \dots (2m-1)(2m+1)}{4 \cdot 6 \cdot 8 \dots 2m(2m+2)} \quad [\text{Madras M.A., 1905.}]$$

Solution:—

$$\text{Now } (1-x)^m = x^m - c(m, 1)x^{m-1} + c(m, 2)x^{m-2} - \dots$$

$$\text{and } (1-x)^2 = 1 - \frac{1}{2}x + \frac{1}{2 \cdot 4}x^2 - \frac{1 \cdot 3}{2 \cdot 4 \cdot 6}x^3 + \dots$$

Hence

$$-\frac{1}{2} + \frac{1}{2 \cdot 4}c(m, 1) - \frac{1 \cdot 3}{2 \cdot 4 \cdot 6}c(m, 2) + \dots$$

= the coef't. of x^{m+1} in $(-1)^m(1-x)^{2m+1}$

wh. is =

$$(-1)^m \cdot (-1)^{m+1} \cdot \frac{(2m+1)(2m-1) \dots 5 \cdot 3 \cdot 1}{2^{m+1} \cdot 1 \cdot 2 \cdot 3 \dots (m+1)}$$

$$= -\frac{3 \cdot 5 \cdot 7 \dots (2m-1)(2m+1)}{2 \cdot 4 \cdot 6 \dots (2m-2)2m(2m+2)}.$$

$\therefore$ The given series

$$= \frac{3 \cdot 5 \cdot 7 \dots (2m-1)(2m+1)}{4 \cdot 6 \cdot 8 \dots 2m(2m+2)}.$$

III. In a series any three consecutive terms beginning with an odd term are in A. P. and three consecutive terms beginning with an even term are in H. P. If a and $a+b$ be the 1st and the 2nd terms of the series, prove that the sum of the series to $2n$ terms is

$$\frac{2a + b(a+2b)^n - a^n}{2b a^{n-1}}.$$

Solution:—

Let S denote the sum of the series to $2n$ terms and T_r the r th term of the series.

Then since $T_{2n-2}, T_{2n-1}, T_{2n}$ are in H. P.

$$\text{we have } \frac{1}{T_{2n}} - \frac{1}{T_{2n-1}} = \frac{1}{T_{2n-1}} - \frac{1}{T_{2n-2}}.$$

$$\therefore \frac{1}{T_{2n}} = \frac{2}{T_{2n-1}} - \frac{1}{T_{2n-2}} = \frac{2T_{2n-2} - T_{2n-1}}{T_{2n-2} \cdot T_{2n-1}} = \frac{T_{2n-3}}{T_{2n-2} \cdot T_{2n-1}}.$$

($\because T_{2n-3}, T_{2n-2}, T_{2n-1}$ are in A. P.)

$$\therefore T_{2n-3} \cdot T_{2n} = T_{2n-2} \cdot T_{2n-1}.$$

Changing n to $n-1, n-2, \dots$ in succession we get

$$T_{2n-5} \cdot T_{2n-2} = T_{2n-4} \cdot T_{2n-3}$$

$$\dots$$

$$\dots$$

$$T_3 \cdot T_6 = T_4 \cdot T_5$$

$$T_1 \cdot T_4 = T_2 \cdot T_3.$$

∴ Multiplying and cancelling like factors we have

$$\begin{aligned} T_1 T_{2n} &= T_2 \cdot T_{2n-1} \\ \therefore T_{2n} &= \frac{T_2}{T_1} \cdot T_{2n-1} \\ &= \frac{a+b}{a} \cdot T_{2n-1}. \end{aligned}$$

Now changing n to $n-1$, $n-2$,..... we have

$$T_{2n-2} = \frac{a+b}{a} \cdot T_{2n-3}$$

$$\dots\dots\dots$$

∴ By addition we get

Sum of the even terms $= \frac{a+b}{a}$ (sum of the odd terms)

$$\therefore S = \frac{2a+b}{a} (T_1 + T_3 + T_5 + \dots + T_{2n-1})$$

again ∵ $T_{2n-3}, T_{2n-5}, T_{2n-7}$ are in A.P.

$$T_{2n-1} = 2 \cdot T_{2n-3} - T_{2n-5}$$

$$\text{But } T_{2n-5} = \frac{a+b}{a} \cdot T_{2n-3} \text{ (proved above)}$$

$$\therefore T_{2n-1} = \frac{a+2b}{a} \cdot T_{2n-3}.$$

∴ Changing n to $n-1$, $n-2$,..... in succession we have

$$T_{2n-3} = \frac{a+2b}{a} \cdot T_{2n-5}$$

$$\dots\dots\dots$$

$$T_5 = \frac{a+2b}{a} \cdot T_3.$$

$$T_3 = \frac{a+2b}{a} \cdot T_1.$$

and $T_1 = a$

which show that the series $T_1, T_3, T_5, \dots$ is in G.P.

$$\begin{aligned} \therefore T_1 + T_3 + T_5 + \dots + T_{2n-1} \\ &= a \cdot \frac{\left(\frac{a+2b}{a}\right)^n - 1}{\frac{a+2b}{a} - 1} \\ &= \frac{(a+2b)^n - a^n}{2b \cdot a^{n-1}} \end{aligned}$$

$$\begin{aligned} \therefore S &= \frac{2a+b}{a} (T_1 + T_3 + \dots + T_{2n-1}) \\ &= \frac{2a+b}{a} \cdot \frac{(a+2b)^n - a^n}{2b \cdot a^{n-1}} \\ &= \frac{2a+b}{2b} \cdot \frac{(a+2b)^n - a^n}{a^{n-1}} \end{aligned}$$

Note:—From this we learn that in such a series the ratio of any odd term to the next higher even term is constant wh. is an important property.

T. R. P.

MINUTE BY THE HON'BLE THE VICE-CHANCELLOR ON THE LAW CLASSES ATTACHED TO ARTS COLLEGES WITH A PROPOSAL FOR THE ESTABLISHMENT OF A UNIVERSITY LAW COLLEGE (CALCUTTA).

The branch of our educational system which stands in need of the most urgent and radical reform is that concerned with the teaching of Law for our Degree Examinations. It is a noteworthy fact that we have not got a single college devoted entirely to the study of Law, as we have in the cases of Medicine and Engineering. When the University was founded in 1857, Law classes were attached to the Presidency College which was, in the main, an Arts College. The number of Law students was comparatively small, and the first Professors employed to teach Law were men of considerable distinction. In 1864, the Government decided to attach Law classes to its colleges at Hooghly, Dacca, Krishnagar, Berhampur and Patna. In each case, a distinguished graduate in Law was appointed on a fixed monthly salary, and the best men available from the ranks of the then new batches of Law graduates were engaged. The classes at all these colleges were comparatively small, and the teaching imparted was more or less efficient from the point of view of the Law Regulations as they existed at the time.

In 1869, similar Law classes were attached to the colleges at Cuttack and Chittagong, and in 1880, Law classes were attached to the college at Rajshahi. Up to the point of time we have reached, the Law classes were attached only to Government colleges, and the fees charged were moderately high; in the case of the Presidency College, the fee was five rupees a month in the First-year class and ten rupees a month in the Second and Third-year classes; in the case of other colleges, it was nowhere less than five rupees a month. In 1882, the authorities of the Calcutta Metropolitan Institution applied for affiliation in Law. The application was granted, and as no conditions were imposed, Law classes were opened with a monthly fee of three rupees in the First-year class, four in the Second, and five in the Third-year class. The immediate result was that the Presidency College lost the majority of its Law students. Shortly after, the City College was affiliated in Law in 1883. Two years later, the Ripon College was affiliated in Law, in 1885, and opened classes at a uniform rate of three rupees, with the result that the other private colleges were obliged to come down to the same level. About this time, the Government closed the Law classes in the Presidency College. Since then, another college has been affiliated in Law in Calcutta, namely, the Bangabasi College, in 1896, and six colleges in Mofussil have also been affiliated in Law, namely, Oooch-Bihar, Bhagalpur, Midnapur, Bankipur, Barisal and Rangoon. The University, therefore, has at the present time nominally 19 colleges to which Law classes are attached, but there are really 18 at work, as the Presidency College has had no classes during more than twenty years. The Calcutta colleges have raised their fee from rupees three to rupees four. In the Mofussil colleges, the fee ranges from rupees three to rupees six. The classes everywhere in the past were more or less full; but the college which has had the largest number on its

rolls is the Ripon College. As regards the efficiency of these colleges, judged from the point of view of the requirements of the new Regulations, only one opinion is possible; they are nowhere near the mark, and the arrangements made can, at the best, be regarded as nominal compliance with the Regulations. The system which has prevailed for many years past in most of the Government colleges in the Mofussil, namely, to pay the Law-lecturer the amount of fees paid by the students, has been suicidal. To take one example, in a Government college situated not very many miles from Calcutta, there was during the last session only one student who paid five rupees a month, and for this sum a Government Pleader, who is the Law-lecturer, is supposed to have taken him through a complete course of Law studies. In Calcutta, where the number of students is very large, the state of things has been just the opposite, and a successful endeavour has been made to turn the Law classes into as lucrative a business as possible. The object has been gained, practically, by an entire sacrifice of discipline. A class may have on its rolls 150 students, the Lecturer begins at the appointed time say 8 o'clock in the morning, with a dozen students; after he has lectured for half an hour, students begin to drop in till the class becomes pretty full when the rolls are called. Proper continuity of work is hardly possible under such circumstances. The majority of the students have no books; they do not intend to listen to the lectures; very many of them are employed as teachers in schools or clerks in offices, and their only anxiety is to get credit for attendance at a certain number of lectures as required by the University Regulation; and it is by no means an unusual incident for a student to get himself marked "present" by a proxy. Not only are the majority of the students irregular and unpunctual in attendance, not only is attendance expressly for the purpose of colourable compli-

ance with the University Regulation—the same laxity characterises, in many instances, the payment of college fees which are often allowed to fall into arrears and are sometimes unrealised and lost to the college. All this laxity encourages our graduates to enter themselves largely as Law students, so that at some future time when occasion may arise or when they may find it convenient, they may appear at the Examination on the strength of their attendance at these lectures. This is manifestly contrary to the spirit of the new Regulations. The new University Regulations in Law contemplate a thorough training in all the subjects of Examination. The number of subjects has been increased by the introduction of important branches like Roman Law, Theory of Legislation, Equity and the English Law of Real Property. The number of lectures to be delivered, to cover the course, is considerably in excess of what was required under the old Regulations. Students are required to attend Moot Courts where legal problems are discussed by them under the presidency of their Professor as Judge. This can be done with profit and instruction, only if the students have been taken in small batches and taught by their teachers to study and analyse cases and to deduce legal principles from a first-hand study of important judicial decisions. Then, again, in the Examination under the new Regulations, 40 per cent. of the marks are to be allotted to the solution of questions framed with a view to test the ability of candidates to apply the more important legal principles to concrete cases. The Regulations provide not only that full credit is to be given for well-reasoned answers to such questions, even though the conclusions happen to differ from the views taken in decided cases, but also that no credit shall be given for bare answers unsupported by arguments. All this implies a far more thorough training than can be obtained by mere attendance at lectures delivered to large classes of students. Indeed, the

Regulations assume a thorough grounding in legal principles, and a systematic study of illustrative cases such as can be pursued only in a good Law Library and under the guidance of an efficient teacher placed in charge of a limited number of students. From the point of view of the new Regulations, not one of the Law classes can consequently pretend to make any approach to efficiency. No college has got a good Law Library or a sufficient number of efficient teachers. No attempt is made to enforce discipline among the students. The Bengal Education Department has realised this, and I understand that the Law classes attached to all the Government colleges in Bengal will be closed from the beginning of the current session. The Government of Eastern Bengal and Assam have also realised the situation, and the Law classes attached to the Government colleges in that Province will shortly be closed, and will be replaced by a Law School at Dacca, a proposal for the affiliation of which will be submitted to the University by the Director of Public Instruction. So far as the private colleges out of Calcutta are concerned, they cannot possibly satisfy the requirements of the Regulations. So far as the private colleges in Calcutta are concerned, the authorities of the Bangabasi College have already intimated to the University that they have decided to discontinue the Law classes from the beginning of the ensuing session. So far as the Metropolitan Institution and the City College are concerned, neither of them makes a substantial profit upon the Law classes, and if their Law classes are closed, the financial position of the colleges would not be seriously affected. As regards the Ripon College, with which I shall deal later on, the case is different; this particular college effects a substantial saving upon the Law classes, a portion of which is apparently absorbed in the maintenance of the Arts Department. If the Law classes in the Ripon College are closed, it would mean a substantial loss to

the proprietor. As I have already stated, however, none of the existing Law classes is efficient from the point of view of the new Regulations, and I am not prepared to concede that these Law classes should be allowed to exist either for the maintenance of the Arts classes or for the profit of the proprietors. Under Section 7, Chapter XIX of the Regulations, the University is called upon to submit the case of each college to the Government of India, and I feel no doubt that neither the Syndicate nor the Senate can, with any sense of self-respect, recommend the continuance of the present system which has been a serious blot on our educational methods for many years past. I invite the University, therefore to face the situation, and to refuse to countenance any longer what has hitherto prospered under the name of legal education. The only solution of the situation is to close all the Law classes, and for the University to found a Law college, like the Law colleges in Madras, Bombay and Allahabad. The Law colleges in the other Provinces are owned and maintained by Government; the Law college proposed by me will, however, be a University College, though we may thankfully accept any aid which the Government may give. I do not desire it to be understood, however, that I claim any monopoly for the University Law College; as I have already stated, there will be a similar Law school, though on a smaller scale, at Dacca, and I trust that at no distant date, there may be a well-equipped Law school for Behar at Bankipur. It is not inconceivable also that with liberal endowments, a Law college may be established in some other part of the Province. But whenever or wherever such an institution may be established, and whoever may maintain it, the essential condition for its affiliation to the University must be that it is a *bona-fide* centre of legal education. I shall now give an outline of my scheme.

The University Law College shall be under

the management of a governing body of twelve members, constituted as follows:—

1. The Vice-Chancellor, ex-officio, President.
- 2—4. Three Judges of the High Court (to be nominated by the Chief Justice of Bengal in consultation with the Vice-Chancellor).
5. The Advocate-General of Bengal, ex-officio.
- 6—7. One member of the Bar and one Vakil of the High Court. (Both to be nominated by the Faculty of Law.)
8. The Legal Remembrancer to the Government of Bengal.
9. The Director of Public Instruction, Bengal.
10. The Principal of the Law College.
- 11—12. Two Lecturers of the College to be elected by the staff.

Members of the governing body shall be elected annually. Occasional vacancies shall be filled up by the Syndicate upon the recommendation of the body entitled to elect.

The management of the College shall be vested in the governing body, but their proceedings shall be subject to confirmation by the Syndicate.

As the governing body described above cannot be completely constituted till the College has been actually established and the Principal and the staff appointed, a Provisional Committee shall be appointed by the Syndicate.

The College shall have a whole-time Principal who shall not be allowed to practise in Courts. His salary shall be Rs. 800 a month rising to Rs. 1,000 by annual increments of Rs. 50. It may be added that each of the Law colleges in the other Provinces has a whole-time Principal, and it does not require any argument to show that some one must make it his business to look after the College and to maintain it in a state of efficiency.

If we assume that there will be 150 students in each class, there must be in addition to the Principal, one Professor on Rs. 200 a month, and

eight Assistant Professors on Rs. 150 a month. For a larger number of students, the staff will have to be proportionately increased.

The Principal shall lecture two hours a day, and the Professor one hour a day, during at least 30 weeks in the year (this would include systematic lectures as well as sittings of the Moot Court). The Assistant Professors will take the students in batches of twenty. Each Assistant Professor will, therefore, have under his charge 20 First-year and 20 Second-year students. He will, on alternate days, take the two sets of students to the Library for tutorial work and discussion of cases, during, on an average, two hours a day; he will also give the students under his charge regular weekly exercises or subjects for essays which will be corrected and returned. The duty of each Assistant Professor, therefore, will be discussion with the students two hours every day and correction of forty exercises a week. Each student will, thus, have nine hours' lectures a week and six hours' work a week in the Library. This, I think, is a very moderate demand to make, and I shall not be surprised if it is found necessary to increase the quantity of work later on. What I have suggested is extremely moderate in comparison with the work demanded from students in Law colleges elsewhere which have reached a high degree of excellence, for instance, Columbia and Harvard in the United States and Tokyo in Japan. I do not doubt, however, that even the moderate beginning in earnest work which I propose, will reduce the existing number of nominal students who now swell the rolls. In the University College, no one I hope will take his admission who does not seriously wish to undertake the study of Law, and, for myself, I do not wish anybody else to come near the place. No one, I trust, deems it the duty of the University to encourage or countenance a system under which the very first art practised by young aspirants for entrance into a learned and honourable profession is defiance of discipline and evasion of the University Regulations.

The monthly recurring expenditure will be Rs. 2,200 in the first year. I have estimated the number of students at 300. The tuition fee must, therefore, be fixed at rupees eight a month, which is by no means, too high, if we consider the quality of training we propose to give. In any event, a Law student, even under the conditions I propose, will have to spend less, and will have a much easier life than a Medical or an Engineering student. I am in a position to add, however, that the Government of Bengal is prepared to make an annual grant, to be devoted to reducing the fees of students by the grant of scholarships at the discretion of the governing body; the amount of the grant will be Rs. 3,500 a year for the first five years, and will be subject to re-consideration at the end of that period. With this sum at our disposal, we may, for instance, institute about one hundred and forty-five stipends of Rs. 2 a month, to be given to deserving students upon the result of work done in the College. The effect of this arrangement will be that deserving students will, practically, have to pay a fee of Rs. 6 only a month.

The College must have a good Law Library; Rs. 30,000 to start with is a moderate estimate. I suggest that this amount be provided from the University Reserve Fund. In addition to this, the Government of India and the Government of Bengal are prepared to help us and to place in the Law College Library, for the use of Law students, several sets of the Indian Law Reports and other Law Publications of the Government of India, and of the different Local Governments.

The College must be suitably located. There will be no difficulty in providing proper theatres in the University Buildings which we propose to erect at once on the land recently acquired by the University towards the west of the Senate House. I would also suggest that of the Reading Rooms in the Darbhanga Library Building, eight may be fitted up with small working Libraries

where the students may read under the guidance of the Assistant Professors. If the scheme is approved, I hope to be able to get everything ready so as to be in a position to open the Law College in July, 1909.

I have given, I hope, an intelligible outline of the proposed University Law College. The details, of course, will require careful consideration and must be left to the Provisional Committee. I wish it to be understood also that the details I have suggested may require modification in the light of experience.

There are two other questions which incidentally arise and deserve consideration: the first of these relates to what are known as Pledership students, and, the second, to the Ripon College.

As regards the Pledership students, they are required under Rules framed by the High Court (Chapter XI, Rule 6 of the High Court Rules, page 263), to attend lectures at one of the colleges affiliated in Law to the Calcutta University, before they are allowed to appear at the Pledership Examination. The University is not directly concerned with these students, and if a strict view is taken of the scope of the University Law College, it may well be contended that these Pledership students ought not to find any place in our Institution. It will be a matter for the authorities who control that Examination to decide, whether the Rules ought to be so modified as to allow Pledership students to read in some one or all of the existing Law classes. If such a course is adopted—as may well be on the ground that the Pledership course differs in some essential respects from our B.L. course—we shall have nothing to do with the Pledership students. If, however, the High Court desires that the Pledership students in future should undergo the same kind of training as we propose to give to our B.L. students, and if the University consents to find accommodation for them, we may very well ask the Government to give us substantial aid. The question of the

provision to be made for the education of Pledership students, however, obviously does not concern the University directly, and cannot deter or delay any action which the University may find essential in the true interests of the education of its Law students.

Next, as regards the Ripon College, I have already stated, that it makes a substantial profit out of the Law classes; the withdrawal of affiliation in Law will therefore mean loss to the proprietor. I do not hesitate to say that this ought not to deter or delay that action on the part of the University which is essential in the interests of sound education and discipline. At the same time, I think the University may, if the proprietor so desires, assist him to put the College finances on a sound basis. I have before me the Report of the University Auditor on the College accounts, such as they are. One fact is patent. A large amount of money is annually lost in the B. L. classes, in the Pledership classes, as also in the Arts classes by reason of great laxity in the realisation of fees from the students. The remedy for this lies in the hands of the proprietor himself. In the next place, it seems to me clear that if the Arts classes are to be made self-supporting, the College fees must be raised, and a rise of even one rupee a month in the fee paid by each student would bring in a considerable sum, nearly sufficient to make up for the loss likely to be caused by the abolition of the B. L. classes. If the Pledership classes are also abolished, there would, perhaps, be no margin left for the proprietor; if, however, the High Court is satisfied that the Pledership classes can be remodelled, so as to meet the requirements of that description of students, and if the High Court recognises the Pledership classes, there would be a margin left for the proprietor. The condition of this particular College and of some of the other private colleges in Calcutta suggests to my mind that it may be desirable for the University to arrange for University

lecturers to teach the B. A. and B. Sc. Honours Courses. If this idea is carried out, as has already been recommended by the Syndicate, the pressure upon these colleges in the Arts departments would be considerably reduced. I may add that if one or more of these colleges will seriously consider the question of a small rise in the fees levied from Arts students, the Syndicate may very well help them to come to a common understanding upon the point, so as to avoid the unfair competition referred to in Section 6, Clause (i) of Chapter XVIII of the Regulations. The University may reasonably be expected to assist the colleges so as to facilitate their work, but I maintain, at the same time, that the University ought not to be expected to countenance a thoroughly unsound system which is misnamed legal education, for the benefit of either Arts classes of colleges or of their proprietors.

ASUTOSH MOOKERJEE.

Reviews and Notices.

HIGHROADS OF HISTORY. BOOK V. 1s. 8d.; BOOK VI. 2s. THOMAS NELSON & SONS.

A few months ago we had the pleasure of noticing with commendation the Fourth Book of this series, which dealt with the story of the British people down to the Wars of the Roses. Of the two books now before us, the first treats of the Tudor and Stuart periods and the second continues the narrative to the present day, finishing with a concise account of the Boer War. As the title of the series implies, the narrative confines itself to a notice of the main outlines and the salient points in the history of the British people, while the chronological summary at the end of each book gives a connected view of the progress of events. As we stated while reviewing the Fourth Book, the series does not content itself with a mere narrative of kings, dynasties and contests, but devotes a great deal of attention to the social, industrial and literary side of history. We need only mention in support of this statement, the chapters on the Elizabethan writers in the Fifth Book and those on the industrial re-

volution and railways and steam navigation in the Sixth. The books are written in a concise and interesting style, and both the matter and manner leave little to be desired. We notice that the compiler in his account of the Siege of Arcot repeats without examination and apparently on the authority of Lord Macaulay's Essay on Clive the pleasing and romantic but apocryphal story of the sepoy's relinquishing their rations of rice and requesting to be allowed to subsist upon the unsubstantial diet of conjee-water. The books are well got-up and amply illustrated, and are a delight to peruse, to hold and behold.

GOLDEN GIFTS. THOMAS NELSON & SONS. 1s. 6d.

This is the fourth part of a series of tales in prose and verse entitled "The Royal Treasury of Story and Song" designed to form a ladder to literature. There are nine tales in prose told in simple and elegant English, one of which is the familiar tale of "Aladdin or the Wonderful Lamp" from the Arabian Nights Entertainments and another is a version of William Morris's poem, "The Man born to be King." Of the tales in verse there are seven among which are Tennyson's "Lady of Shalott" and Browning's "Pied Piper of the Hamelin." The book is printed on good paper and in big type and is enriched with numerous illustrations some of which are coloured. It will serve as an excellent book for home-reading for our pre-Matriculation boys.

BELL'S ENGLISH TEXTS FOR SECONDARY SCHOOLS: SIR WALTER SCOTT'S LEGEND OF MONTROSE; CHARLES READE'S THE CLOISTER AND THE HEARTH; ENGLISH ODES. GEORGE BELL AND SONS. 1s. each.

The first of these booklets is an abridgment of Scott's Novel *Legend of Montrose* edited by Mr. F. C. Luckhurst, is prefaced by a brief life of Sir Walter Scott and includes a glossary explaining the meaning of dialectic or difficult expressions and allusions. The second is a series of selections from Reade's well-known novel edited by the Rev. A. E. Hall. The selections have been chosen more with the view of giving stirring scenes from the book rather than to preserve the thread of the story. But in order to enable the reader to see the connection between the several selections, the editor has also given a summary of the whole book. A few brief notes have been added

at the end to explain difficult words and phrases or to make clear the connection between the different extracts. We think that the selections have been carefully and judiciously made. The other publication before us is a collection of English Odes edited by Mr. E. A. G. Marsh. It is prefaced with a brief introduction explaining the characteristics of the ode and contains brief explanatory notes. All the famous English odes are brought together here in a convenient form and the book will no doubt be useful to other persons than the scholars for whom it is intended. We have no hesitation in commending it to the notice of teachers. The books are all neatly got-up and tastefully bound.

THE CARE OF BABIES, BY MRS. H. C. CREDOCK. GEORGE BELL AND SONS, 1908. 1s.

The knowledge of the care and management of babies, as the authoress says, is surely the most important of all knowledge for a woman, and the modest little book before us is intended primarily as a reader for the upper classes of Girls' Elementary schools. The book aims at providing a course of instruction on practical lines on the treatment and management of babies and young children, and contains chapters on such subjects among others, as: Baby's bath—Baby's clothes—How to dress a baby—Sleep—Baby's airing—Baby's food—Baby's ailments. The authoress has had practical experience of the bringing up of children, and has endeavoured to show what it is possible to do under ordinary difficulties. Though primarily intended for the use of girls in English schools, the book is calculated to serve the needs of a much larger audience, and we heartily commend it to the notice of all parents who are on the look out for a short and simple book treating on practical lines of the subject of the care of babies.

THE GARDEN OF CHILDHOOD, BY ALICE M. CHES-
TERTON. THOMAS NELSON & SONS. 1s. 6d. net.

This is a book of stories told in homely English for the use of little folk at school and at home. Each of the stories embodies a moral lesson, but they are so told that the moral is never obtruded or enforced or even emphasized. In our opinion the authoress has succeeded in her aim so to provide instruction and amusement at the same time, that the children hardly know which is which, and enjoy both.

THE GIRLS' SCHOOL YEAR BOOK (PUBLIC SCHOOLS), 1908. SWAN SONNENCHIEN & CO., LONDON. 2s. 6d. net.

This annual, which is a companion to the *Public Schools (Boys) Year Book*, issued by the same publishers, now makes its appearance for the third time. The publication is intended to provide a record at once comprehensive and concise, of all matters of interest to parents, school-mistresses and girls in connection with secondary education. The thoroughness and completeness of the information contained in the book make it indispensable to those for whose use it is intended. The book also deals with the career of girls after leaving school, and includes some very useful articles on women's work. We congratulate the publishers on this excellent compilation, and wish it continued success.

We acknowledge with thanks the receipt of *Urbanora, The World's Educator* issued by the Charles Urban Trading Co., Ltd., London. This is a catalogue of films illustrating exclusively educational and scientific subjects to be used with the bioscope and micro-kinematograph. The catalogue gives detailed descriptions of the films under the several heads of national history, physical and optical phenomena, operative surgery, medical science, bacteriology and public health, state, naval and military, geographical, religion: home and foreign missions, historical and industrial. We need hardly add that the catalogue is replete with instruction.

A NEW GEOMETRY, PARTS III AND IV. BY S. BARNARD, M.A. AND J. M. CHILD, B.A. B.Sc. (MACMILLAN AND CO.) 2s. 6d.

We have had the authors' new Geometry for schools for several years before us now and we believe that copies of it are to be found in the libraries of most of our colleges and high schools. Teachers and students alike, have found it a very useful book and the arrangement, printing, diagrams and the get-up are all that could be desired. If the volume is not in more common use in this Presidency, it is, we believe, due solely to vested interests and conservatism. With the impulse that has been given to modern Geometry by the new regulations of the University, we hope to see the book in the hands of every student. The present volume, Parts III

and IV with the New Geometry for Junior Forms, Parts I and II covers the same field as the authors' New Geometry for schools. It is extremely handy and is bound to be in great requisition with the present F.A. and the future Intermediate candidates of the Madras University.

FIVE THOUSAND ARITHMETICAL EXAMPLES AND EXERCISES. COMPILED BY R.W.K. EDWARDS. 3s. 6d.

This collection of exercises is vast and varied and must be exceedingly useful to the students as well as the teachers of the Fifth and Sixth Forms of our High Schools. As stated in the preface, the exercises are arranged so as to form "when supplemented by proper oral teaching, a complete course of Arithmetic for those who have been through the elementary stages." A number of model questions are worked out under each head, and we are glad to note that methods of contraction are fully explained and due prominence is given to decimal fractions by placing them before the vulgar fractions. Decimal fractions are as a rule neglected by the average Indian student notwithstanding their manifold advantages simply because he has been taught vulgar fractions first. At every stage the student is constantly reminded that in practice Arithmetic can seldom be exact, and that a result correct to a few places of decimals is all that is required, and is easiest obtained by working in decimals. The book is exceedingly well-got up and we can confidently recommend it to those for whose use it is intended.

MATRICULATION PHYSICS. CROWN OCTAVO, 534 PAGES, WITH 634 ILLUSTRATIONS, BY P. LAKSHMI NARASU NAIDU, B.A., ASSISTANT PROFESSOR OF PHYSICAL SCIENCE, MADRAS CHRISTIAN COLLEGE. SRINIVASA VARADACHARI & CO., MADRAS. (Price Re. 1-4-0.)

The author of the book before us is well-known for his learning and needs no introduction. His high attainments in Science are a sure guarantee for the accuracy of the contents of the book. It is in fact a mine of information for students of High School Science to work in, and it bristles throughout with interesting and instructive illustrations. The author's treatment of the subject is thoroughly

practical and exhaustive so far as it goes. The presentation is simple, clear and homely and the methods of study indicated are in many respects original and quite up-to-date. The graphic method of representing the relation between connected physical quantities stands out prominently among the many noteworthy features of the book. The experiments described are not only simple but varied as far as possible. No very elaborate or costly apparatus are required to perform them. The facts taken for illustration are mostly of the commonest occurrence, quite within the observation and experience of High School pupils. One may wonder however if it is possible to get through the book in the three years that are ordinarily devoted to the study of Science in the High School Forms. The writers of High School books will do well to remember that the subjects they write about are not the only ones that the High School pupils are to study, that there are a variety of others to be studied and that the High School teachers and pupils are, so to speak, groaning under the weight of the work they have to get through during the High School course. In the case of the book under review, however, select portions might be done by way of object lessons in one or two of the Lower Secondary Forms. The author has spared no pains to make his book really useful. He has appended a list of practical exercises to be done by the pupils and another of the apparatus and appliances that may with advantage be constructed by the pupils themselves. The index at the end of the book is sufficiently exhaustive. The usefulness of the book might be greatly enhanced by the addition of a number of well-chosen questions and examples at the end of every section. There is no denying that the learned author of the book has supplied a real want—the want of a really good text-book for teaching Elementary Science to the High School Forms under the new Regulations. Further the author has had the generosity to fix the price of his valuable book at Re. one & As. four only so as to place it within the reach of all pupils, rich and poor alike. It is to be hoped that teachers and pupils will appreciate the real worth of the book and accord to it the encouragement it so richly deserves. The printing and get-up is all that is desirable and as usual characteristic of the high class work turned out by the Publishers and the very large number of illustrations enhances the usefulness of the book considerably.

THE COIMBATORE TEACHERS' ASSOCIATION.

Programme of meetings for the half-year ending December, 1908.

DATE AND HOUR.	PLACE.	SUBJECT.	LECTURER.	CHAIRMAN.
1 Saturday, the 18th July, 6 P.M. ...	Coimbatore College	Nature Study in Primary Schools.	M.R.Ry. C. R. Narayana Rao, M.A., L.T.	E. H. Elliot, Esq.
2 Do. 1st Aug. " ...	Government Training School for Masters.	Switzerland	C. S. Sundaram Aiyar, B.A., L.T.	"
3 Do. 15th do. " ...	Coimbatore College	Some points in the Pronunciation of English.	E. H. Elliot, Esq.	"
4 Do. 22nd do. " ...	L. M. H. School	Teaching of English in Upper Secondary Classes.	M.R.Ry. S. V. Rangaswami Aiyangar, B.A.	W. M. Theobald, Esq.
5 Do. 12th Sep. " ...	Stanes' High School	How a Bill becomes Law in England.	W. M. Theobald, Esq.	"
6 Do. 3rd Oct. " ...	St. Michael's High School	Ammonia	M.R.Ry. M. P. Maria Das, B.A., L.T.	"
7 Do. 24th do. " ...	Coimbatore College	Insect Life	C. R. Narayana Rao, M.A., L.T.	E. H. Elliot, Esq.
8 Do. 14th Nov. " ...	L. M. H. School	Correlation of Studies	C. S. Sundaram Aiyar, B.A., L.T.	W. M. Theobald, Esq.
9 Do. 5th Dec. " ...	St. Michael's High School	Educational System in France.	Rev. Father G. Boulanger, B.A....	Rao Bahadur C. Nagojee Rao, B.A.

T. S. VENKATARAMANA AIYAR,
Secretary.

COIMBATORE,
8th July, 1908.

Indian Educational Notes.

MADRAS.

Mr. P. F. Fyson, Professor of Biology, Presidency College, has been granted an extension of special leave up to 15th November 1908 inclusive.

Mr. Syed Hussain Bilgrami, Nawab Imad-ul-Mulk Bahadur, having resigned his office as Fellow of the Madras University under the Indian Universities Act, is to be an Honorary Fellow.

Mr. T. Shaikh Muhammad Hussain Sahib Bahadur, B.A., Sub-Assistant Inspector of Schools, Madras Muhammadan Range, is to act as Assistant Inspector of Schools, Godavari-Kistna division, during the absence of Mr. M. Kameswara Rao Pantulu on leave or until further orders. He is to act in the 9th grade of the Madras Provincial Educational Service.

MAJOR A. Miller, M.B., M.R.C.S., L.R.C.P., I.M.S., is to be Lecturer in Experimental Physics, Medical College, for the session 1908-1909.

From the report on the operations of the Madras Text-book Committee for 1907-1908 we learn that 343 books were considered by the Committee during the official year and 189 of them were found suitable for use in schools.

At the end of Article 43 of the Code of Regulations for European schools, the following proviso will be added:—

Provided that no cadet shall be eligible for the Grant if he is below the age of 14 or over the age of 18 years and if he has not been on the rolls of the institution or in the cadet corps for a period of not less than six months during the year for which the Grant is paid.

The Madras Government have made arrangements for the formation of Sub-Committees in the District Boards, Taluk Boards and Village Unions to advance the interests of elementary education.

The Government of Madras have sanctioned a maximum Grant of Rs. 10,000, towards the cost of

purchasing a building for the use of the St. Peter's European School, Royapuram, subject to the following conditions:—(1) that the amount expended on the purchase of the building does not fall short of Rs. 20,000 as actually verified; (2) that satisfactory proof is produced that the title to the property is clear: that all other conditions prescribed in the Code of Regulations for European Schools have been duly complied with; (3) on the above conditions being fulfilled the Grant will be paid as funds become available.

The Government of India having suggested that while the question of the curriculum for European schools is under consideration, the opportunity may be taken to revise the list of high schools for Europeans and to include in that list no schools which do not provide for the suitable instruction of pupils in a high school curriculum, the local Government requested the Director of Public Instruction to state whether any, and if so what, action has been taken in the matter. It has been suggested that, after giving reasonable time for the necessary notification to managers, no school should be classified as a high school unless its classes in that stage are taught by University graduates or by teachers whose educational qualifications are, in the opinion of the Director of Public Instruction, equal to those of graduates. Schools which cannot attain to this level should be classified as below the high school stage. The Director of Public Instruction stated in reply that until the question of the curriculum was settled it was impossible to say certainly which schools are fitted to undertake it and which are not. He called, however, for a report on the subject from the Inspector of European and Training Schools. Of the ten high schools for European boys in this Presidency, the status of one or two only is doubtful. The Government have eventually passed the following order:—The revised curricula and syllabuses for European schools, and for the Primary scholarship and the Middle and High School and Scholarship examinations for Europeans, submitted by the Director of Public Instruction, are approved. The Director is requested to revise the list of high schools for Europeans with reference to the revised curricula and to include in the list no schools which do not provide for the suitable instruction of pupils in a high school curriculum. The result of the action taken by him in this matter should be reported to Government.

IN G. O. No. 589, Educational, dated 10th August, 1892, Muhammadans, Uriyas and other backward and indigent classes specified in the Grant-in-Aid Code were permitted to pay fees at half the standard rates in general institutions under public management. Subsequently in G. O. No. 632, Educational, dated 8th October 1896, Muhammadans were permitted to pay half fees in all professional

institutions under public management and the concession was extended to Uriyas in G. O. No. 290, Educational, dated 29th May 1901. Thus, while the Muhammadans and Uriyas alone enjoy the privilege of paying half fees in professional institutions, the other backward classes specified in the Grant-in-Aid Code are not admitted to it. In these circumstances the Director of Public Instruction requested the Government to extend the concession of paying fees at half the prescribed rates in professional institutions to the other backward classes referred to above, as there seemed to be no reason why, when all the classes declared backward under the Grant-in-Aid Code were placed on an equal footing in regard to the rates of fees levied in general institutions under public management, they should not be accorded equal treatment in regard to the payment of fees in professional institutions under public management. The Government have accepted the recommendation of the Director of Public Instruction that all the backward classes or castes specified in Article 5 of the Grant-in-Aid Code may be permitted to pay fees at half the prescribed rates in professional institutions under public management.

In reviewing the report on the work of the Teachers' College, Saidapet, during the year 1907, the Director of Public Instruction made the following observations:—

The changes in the teaching staff during the year were more numerous than is generally the case, but they were all unavoidable, being due in the first instance to the absence of Mr. Hall on furlough and to the illness of the senior assistants. Towards the close of the year Miss C. L. Gillingham, Lady Superintendent of the Primary Department, resigned her appointment. Her work undoubtedly revolutionized the primary school, and the students under training cannot fail to have been influenced for good by a study of her methods. The question of strengthening the staffs of the Training and Practising Sections will receive separate consideration. The results of the Matriculation Examination held in December last were very poor, and the Director cannot accept the Principal's explanation attributing them to the changes in the staff and the absence of specialists to teach the various subjects of the Matriculation Curriculum. It is believed that Mathematics and Science have been taught to the Matriculation class by teachers who are specially qualified to handle them. The failures in English were almost as numerous as those in other subjects. It appears that 17 of the 26 candidates who appeared had failed on a previous occasion and that 21 of the pupils in the sixth form had been in that form for more than one year. It is doubtless the lower forms which require more attention. The Principal's remarks involve the assumption that the bulk of the work is done in the final year.

The Government in recording the report remark that the question of strengthening the staff of the

Practising Section of the College should receive early consideration.

THE Mysore Government has been kind enough to present the Madras Sanskrit College with a set of State Oriental Publications and to direct future publications also to be sent to the College *gratis* as they are published. 18 volumes have been received.

A MEETING of the Professors of the Presidency College and the students of the late Mr. T. R. Scott, was held in the Principal's lecture room of the Presidency College on Thursday, the 23rd instant, at 5-30 p.m., when the following Resolutions were passed:—

I. That the Professors and students of the Presidency College, desire to record their deep sense of the loss they have sustained by the death of Mr. T. R. Scott and to convey to Mrs. Scott and her family an expression of their sympathetic condolences.

II. That the following Committee be appointed to collect subscriptions with a view to found a memorial to the late Mr. T. R. Scott:—

Mr. J. H. Stone (President)
Mr. T. R. Vaidyanathan (Secretary)
Mr. S. A. Srinivasa Sarma (Treasurer)
Mr. P. Achuta Pisherothi
Mr. S. Venkataraman.

Subscriptions will be gladly received by the Secretary or the Treasurer and will be duly acknowledged by the Treasurer.

A MEETING of the Teachers' Association, Sankaranainor Covil was held on the 11th July 1908, at 3 p.m., at the Coronation Hall with Mr. A. Govindarajulu Mudaliar, B.A., Sub-Assistant Inspector of Schools, Sankaranainor Covil Range in the chair, when 21 teachers were present.

The Second Assistant Teacher, Board Panchama Elementary School, gave a model lesson on Nature-Study—"Mouse" with clay models and taught the story of "the lion and the mouse" adopting the Kindergarten method. Afterwards, the pupils were engaged in Kindergarten occupations. Some pupils made the models of a lion and a mouse, some drew the pictures of the same on slates, some made a snare with the sticks and some spread the seeds in the form of a mouse and a lion. At the end the pupils acted a drama, the whole story specially composed by the teacher out of the same.

The Chairman explained clearly the principles of correlation of studies and the part played in the development of the powers of observation of the pupils by the Kindergarten occupations, such as clay-modelling, sticks laying and seeds spreading and free-arm drawing. He dwelt upon the im-

portance of the preparation of the notes of lessons and formation of museums and school-garden and pointed out the necessity for the imparting of moral instruction with a set of moral rules and precepts framed, and for maintaining the conduct and progress register with due care. He concluded his speech with the advice that the teachers should always commence their work in the morning lessons with a short talk with the pupils about what they noticed after they had left the school the previous evening.

BOMBAY.

THE Gaekwad has made education compulsory in his State for boys up to the age of 12, and girls up to the age of 10. In the year under report (1906-07) the number of schools under the immediate control of the Education Department rose from 688 to 1267. This is, in very deed, progress with "leaps and bounds." The total receipts in the year amounted to Rs. 96,000 and expenditure to about 8 lakhs. This is truly liberal help to education. There are three high class musical colleges under teachers educated in Europe in the best schools of Music after a thorough grounding in classical Indian systems under the foremost masters. Batch after batch of picked young men have been educated in the West at the Maharaja's expense in the arts and sciences. Last year too, selected students were sent. Groups of college and school students periodically visit the places of historical, architectural and antiquarian interest throughout India, under the guidance of a teacher.

THE Government of India have sanctioned the grant of an extra pension of Rs. 1,000 per annum to Mr. E. Giles, lately Director of Education in Bombay. Mr. Giles acted as Director-General of Education in India for nearly two years.

In his concluding speech at the Budget Meeting of the Bombay Legislative Council, His Excellency the Governor spoke as follows on matters relating to Education:—

It is particularly interesting to me at this, my first meeting of this Council, to notice the importance which is attached by members to education and especially primary education. It is clear that education, free and compulsory, has some strong advocates. That may be the goal towards which we must strive, but at present it is not within the reach of practical politics. We have no funds, and for some years we are not likely to have funds to meet the heavy expenditure involved. Compulsory and free education became possible in England and other Western countries because the great mass were ready

to acquiesce in all that it involved. That stage has not been reached by the masses in India, although I have no doubt that it will come in time. I ask the honourable members to imagine what would be the result of the application of compulsion, with the enormous number of prosecutions and fines which it would entail. I need not say that the result would be disastrous. The Hon'ble Mr. Setalwad said that compulsory and free education had been established in Baroda. This is not quite the case. His Highness the Maharaja Gaekwar who devotes himself to the advancement of his people and is one of the very keenest and most practical educationists in India, is taking the tentative step in this direction. We shall watch the results with interest and profit but much time must elapse before education is free and compulsory throughout Baroda. Meanwhile, I think our course is clear and I agree with the Hon'ble Mr. Selby, who has so well explained the situation. Already a considerable percentage of children receive free primary education. We must make that education better and spread it wider over the Presidency. The first step is to raise the pay of the schoolmasters. As the Hon'ble Mr. Sadik Ali and the Hon'ble Mr. Phare have well said, we cannot expect the best work from men who are underpaid and without hopes of advancement and not sufficiently trained for their duties. The next step, or a simultaneous step, if we can find the money, is to increase the number of primary schools so as to bring education nearer to the children in the village. As regards Bombay City, I was told when I arrived that a strong committee was sitting and would report immediately. I have been anxiously awaiting that report ever since and I am glad to know that there is some chance of its being forthcoming.

THE Government High School at Godhra, Panch Mahals (Bombay) which has been named after the late lamented Justice Telang was the scene of rejoicings in June last in honour of the King-Emperor's birthday. The boys were arranged in double rows in the shape of a semi-quadrangle. Agreeably to the instructions issued for the occasion all the teachers were present. The pleasant chiming of the bell which continued for ten minutes served as a sort of educational *feu de joie*, and at the same time as an intimation for the commencement of the proceedings. After a smart performance of drill Mr. K. R. Nanjiani, B.A., Headmaster, Telang High School, addressing the assemblage said:—

"We meet to day on a very auspicious occasion. It is the Blessed Anniversary of the birth of our Gracious Sovereign, King-Emperor Edward VII. I wish this practice were continued from year to year. Many of you I dare say, are well aware of the blessings which have been conferred on us from time to time under the benign British Rule. The parental care with which we are governed can best be judged by mentioning a few remarkable features thereof.

When that the poor are afflicted on account of failure of crops or scarcity of food, without any solicitation from the distressed, Government succours them in various ways. They adopt measures betimes for opening famine works and organizing relief camps, where the famine-stricken are fed and taken care of. Then there is the grain compensation allowance, which is a real boon to low-paid employees. Probably most of you know full well that the menials belonging to this very school as also one or two assistant-masters get the benefit of it, for recently the limit has been liberally raised to Rs. 30. Then just in front of you there is a stronger and stabler evidence of beneficence. Look at this magnificent building where you receive your education. Look at the two beautiful and airy Hostel blocks provided for outsiders. The boarders live like princes, as it were, in a palace and have only to pay half a rupee as monthly rent. The boarding charges amount to rupees four or five only. Consider how it happens that you have to pay so little for your living. Because Government pay the servants who have been placed at your disposal. Also because you get the use of the necessary utensils and furniture for nothing."

"It would be tedious to give more instances. We might follow the Persian proverb which says (*ayan ra che bayan*), it is needless to describe what is self-evident; or the Hindustani *hath kangan ko arsi kya*, meaning, for seeing your bracelet you need no mirror."

"From the speech of Brutus recently recited before on the occasion of our Social Gathering, you learn that love of one's own country is very natural. I would go a step further and say it is commendable. But bear in mind you should not run to excess. You ought to be so true to your country as not to be false to your Sovereign."

"Now I put it to you, one and all, consider whether it is not our bounden duty to pray for the long life of so Gracious a Sovereign and for the permanency of the benignant British Raj." (Cheers.)

Mr. H. M. Mehta gave the substance of the speech in Gujarati. The National Anthem was sung in English as well as in Gujarati when all kept standing. The singers were then each presented with a book by the Headmaster who proposed three hearty cheers for the King-Emperor vociferously resounded by all present. The proceedings were closed with the distribution of sweets to the boys of the School.

THE Government of Bombay recently issued the following notice regarding Certificates of Identity to be given to Indian students and others visiting England:—

Extract from the Proceedings of the Government of India in the Home Department (Public) under date the 8th December, 1899:—

Resolution.—The Secretary of State for India has brought to the notice of the Government of India that it not infrequently happens that natives of India, students or others, who have proceeded to England, desire to obtain passports to enable them to travel to foreign countries in which the possession of a passport is necessary or desirable, and that difficulty often arises from want of evidence to show that the applicant is a British subject and therefore entitled to a passport. Appeals for assistance are also frequently addressed to His Lordship by destitute Indians who desire to return to their country and by students who, owing to embarrassed circumstances, are unable to complete their course of education. In order to enable the Secretary of State to deal with such cases satisfactorily the Governor-General in Council has decided that it is necessary to press upon Indian students and others visiting England the desirability of providing themselves, before their departure from India, with an authoritative certificate of identity, in a proper form signed by the head of the District (in a Presidency Town, the Commissioner of Police) in the case of residents of British India by the Political officer in that of residents of Native States. For a student, the certificate should be signed by the head of his last school or college and countersigned by the District officer (in a Presidency Town, the Commissioner of Police) or Political officer as the case may be.

THE Syndicate of the Bombay University, says a contemporary, has formulated its views on the proposals for the satisfactory provision for the teaching of science which were forwarded by Government to the University of Bombay in April last. The three points on which the opinion of the University was specifically invited were, the concentration of higher science teaching at the Poona College of Science, the provision of laboratories for Elementary Science courses in Bombay and Poona, and the abolition of the Science departments of the Elphinstone and Deccan Colleges. In the course of their letter Government expressed the opinion that it would be well if all candidates for University degrees were required to pass through a course of Elementary Science. The Syndicate, agreeing with this view, points to its regulation making a study of Physics compulsory at the Intermediate examination in Arts in proof of its agreement. It further expresses itself strongly in favour of retaining Science as an optional subject for the B.A. examination. It welcomes the establishment of a Central Laboratory for higher science teaching,

that is, for students for the M.A. and B. Sc. degrees, and it recommends, that it should be established in Bombay and not, as suggested by Government, in Poona and in connection with the College of Science. But it objects to the proposal to establish two Central Laboratories in Bombay and Poona for the teaching of Elementary Science, and suggests that, instead of the Science department of the Elphinstone and the Deccan and the Grant Medical College being abolished as proposed, these departments should be fully equipped for the purpose of imparting the scientific instruction required for the Intermediate Arts, the Intermediate Science, the B.A., and the preliminary scientific examinations. The Syndicate considers the large number of students to be taught and the distance of the Colleges from one another and, consequently, from any Central Institution, to be insuperable difficulties in the way of maintaining such Laboratories.

The Syndicate of the Bombay University has selected Messrs. S. B. Butna and R. V. Chakrader for the Sir Mangaldas Nathubhai Scholarships of Rs. 1,800 each, tenable in England. The former student will go through a course of electrical engineering and chemistry, and the latter studies mining and metallurgy.

CALCUTTA.

THE UNIVERSITY LAW COLLEGE, CALCUTTA.

DEBATE IN THE SENATE.

UNANIMOUS VOTE.

UNUSUAL interest was centred in on Wednesday evening at the University meeting when a big discussion was expected on the recommendation of the Vice-Chancellor for the establishment of a University Law College and the appointment of a Provisional Committee to organise it.

In consequence there was a representative gathering of Fellows, but it had been decided to refer the matter to a Committee, with the result that there was no discussion at yesterday's meeting. In fact after the Vice-Chancellor's speech there was a deep silence and the Rector, Sir Andrew Fraser, who presided, found it difficult to get a response to his query whether anybody present had any remarks to offer. The silence was broken by Mr. Caspersz, who asked if the motion was seconded, and Maulvi Seraj-ul-Islam put the

first question, which was followed by two other Fellows making short speeches.

Punctually at 5-15 P.M., the members took their seats, when His Honor the Rector opened the proceedings. He said:— I have agreed to come and preside this afternoon because the necessity lay on the Vice-Chancellor to take part in the discussion before us. I need not say that I have been kept pretty well informed of what was going on in the Senate and that my occasional appearance here is due to duties of this kind. I see—I don't know whether I can call it a promise or threat—the possibility of a full-dress debate on this matter, but I must confess I hardly expect that the matter is one which will require very much discussion or controversy now. Certainly as the proposal was made at first there was a good deal of ground for controversy, but now when it is distinctly laid down that the Syndicate's recommendation, which I understand was arrived at after a meeting of the Faculty of Law last Tuesday, provides, on the one hand, that a University Law College be established and that, on the other hand; this college will not be established for the purpose of creating a monopoly but as a model college, and that any college which carries out the requirements of the University will be allowed to do its work, then I think the matter becomes one of very much less controversy than before. I don't think it would be right of me to make observations now in regard to the questions put before the Senate, but I call upon the Hon'ble the Vice-Chancellor to move in terms of the recommendations of the Syndicate.

THE VICE-CHANCELLOR'S SPEECH.

The Vice-Chancellor said:—Your Honor and my colleagues on the Senate,—The two recommendations of the Syndicate which have been entrusted to my care and which I have the honour to place before you for acceptance this afternoon are in these terms:—

The Syndicate to recommend to the Senate:—

- (a) That a University Law College be established and that the Syndicate be authorised to appoint a Provisional Committee to organise it.
- (b) That with a view to avoid misconception, it be recorded that in establishing a University Law College the University does not wish to deviate from the principle enunciated in the Resolution of the Government of India, dated the 24th October, 1902; the College is to be established for the promotion of legal education of students for Degrees in Law, and to serve as a

Model College, and not with a view to create a monopoly, either general or local.

The recommendation in my judgment are so plainly just and necessary that no elaborate defence is necessary. At the same time as there has been some opposition and a great deal of misconception on the subject it is desirable that I should make a statement. I do not propose on the present occasion to give you the history of legal education in these provinces. Although when that history is looked at it seems to me to be a story singularly illustrative of apathy and neglect. We have no concern with the state of legal education or the absence of all legal education before the Universities were founded. But at the time when Universities were about to be founded it was laid down in the clearest possible terms that the Universities should undertake the teaching of Law. That was in July 1854. Fifty-four years later almost to a day the Senate are still considering whether the University ought to take part in the teaching of Law. I will read out to you a passage from the Education Despatch of 1854. That Despatch first points out that the Universities should be established for the promotion of teaching in Arts and Science as also Medicine. At that time the Medical College had been in existence for twenty-two years; but no provision apparently existed at the time for the purpose of teaching Law or Engineering. The Despatch goes on to say, in para 30: "It would be advisable to institute in connection with the Universities, Professors for the purpose of the delivery of lectures in various branches of learning for the acquisition of which, at any rate in an advanced degree, facilities do not exist in any other institution in India. Law is the most important of these subjects."

A CHINESE PUZZLE.

That is followed by the statement "Civil Engineering is another subject of importance." This was on the 18th July, 1854, and I can say without exaggeration that the progress we have made is, in the words of John Stuart Mill, to be described as a Chinese puzzle. Well, the Universities were founded in 1867, the Presidency College had been established two years earlier, and as soon as the University of Calcutta was established a College of Civil Engineering was founded by Government. So far as Law is concerned, Law classes were attached to the Presidency College. It is obvious therefore that from the very beginning Law was given a subordinate position in contravention of the Court of Directors, and that subordinate position unfortunately for Law has been enjoyed by Law up to the present

time. It has been regarded that legal studies may be subordinated to the interests of teaching in the Faculty of Arts. So far therefore as this University is concerned, in 1857 we started with Law classes in the Presidency College. There was the Medical College to represent Medicine, and there was the Calcutta College of Civil Engineering, as it was then called to represent Engineering. Consider for a moment what progress has been made in these two faculties. The Medical College has developed by leaps and bounds. I do not grudge it. I admire the piles of buildings which are even now being erected, and I shall anxiously watch further development of that institution. So far as the Faculty of Engineering is concerned it has had a somewhat chequered career. It started with a college; five years later it was amalgamated with the Presidency College; but the engineers knew how to protest, and fifteen years later they got their college back. The college I have in view is the Sibpur Engineering College, and it is an open secret that the prospects of that college are likely to be improved in the near future.

UNHEALTHY COMPETITION.

But what is the story connected with the teaching of Law? A few years after classes had been opened in the Presidency College, classes were opened in the other Government Colleges in the mofussil. Distinguished graduates of the Calcutta University who had taken degrees in Law were sent out on fixed salaries. I have nothing to do with the work done by them there. I believe their work was more or less satisfactory. Later on colleges were founded in Calcutta, that is to say, Law classes were attached to the Arts classes. Experience has shown that unfortunately this has not quite been for the benefit of legal teaching. Competition in certain cases produces an extremely healthy effect. In other cases competition may have just the opposite effect. The system which has been pursued is in my humble judgment an entirely wrong one. The position I take up is that Law requires by itself a college. There is no study to which Law need or should be subordinated. I have no doubt that the members of the Medical Faculty would be astonished if a suggestion was made that the Medical College should be attached to an Arts College and the management of it lay in the hands of a Principal who knows nothing about medicine. I suppose the Engineering people would be very much annoyed if it was suggested that their college should be attached to an Arts or Medical College and the management placed in the hands of a man who knows nothing about Engineering. The posi-

tion I take up is that legal studies are of sufficient importance to justify the establishment of a Law College and this is borne out by experience. The colleges have been struggling in the past, best as they may, to give what is called a legal training. There has not been much of legal training, that is a known fact which cannot be denied, and it is not necessary that we should shut our eyes. In some places the pernicious system has been introduced of paying the lecturer—not a fixed salary—by the fees of students, that is to say an uncertain amount depending on the number of students which can be got. That is a system that can hardly be expected to prosper; in other places classes have been so conducted that there is practically no control over students. It is difficult to imagine how Law studies can be successfully pursued without the help of a library. The library needs money and no college is in a position to lay out money for the purpose. The demand for a reading-room is of such a character as to make it impossible that the claim of Law should be considered. Not only that, it has not been practicable to maintain a sufficient number of proficient professors who are properly paid; but even if a college possesses some books it has not been practicable to furnish reading-rooms, where students may be expected to refer to the guidance of efficient teachers. The whole position can be summed up in one sentence: "There has not been up to the present time any serious attempt at a scientific study of Law." Is it desirable that this should continue for the sake of the reputation of the University? I have no hesitation in saying that the University should not tolerate it. The University ought to intervene and establish a college where Law may be studied scientifically.

A LIVING SCIENCE.

But then I have heard it said by persons of shallow wisdom, that miscalls itself practical, that the scientific study of Law does not require an elaborate training, that an elaborate training is necessary in Medicine and Engineering, but not in Law. I have heard it mentioned by people in high position and great respectability that Law is a science, and there are people that believe that Law is a trade. I think the time is fast coming when people will have to realise that Law is not a trade but a living science. In order to realise that all we have to do is to look around and see what has been done in other civilised countries of the world. Some years ago the Government of the United States prepared an

elaborate statement on legal education on the different Universities of the world. The whole of the continent of Europe, America, England, Japan, and China are mentioned in that statement with the exception of India. I think the circumstance an extremely fortunate one. If our system had been accurately described we should have stood branded for all time. That no inquiry was made about us was extremely fortunate for our reputation. If you read that report you will find that every University where the degree of Law is granted there is some attempt to teach Law scientifically, not of course to the same extent in every case. In some Universities of America there are 250 students with as many as twenty whole-time professors, while in some of the German Universities for 500 students there are sometimes as many as twenty-five professors. You cannot say the same high standard is maintained everywhere. There is this common feature—that wherever the Law degree is given that degree is based on training scientifically given. I claim it is not a day too soon that we should make up and try to do something with our legal education. I am not dealing with the details of the scheme which I put forward, as they cannot be considered at the stage. They must be carefully threshed out. I must say this much, that those statements are not based, as some people thought, on imagination. They were made after a careful study of what has been done elsewhere. I don't ask the Syndicate or the Senate to commit themselves to details. All that I ask the Senate to commit themselves to is that it seems desirable to establish a Law College, the details of which must be worked out—so much for the first motion.

The second motion is really an explanatory rider to the first and had to be added there was a misapprehension that the intention of the University in establishing a Law College was to create a monopoly. This resolution clearly disclaims that in the clearest possible terms. That Senate in establishing a Law College does not claim to create a monopoly either in Calcutta or the mofussil. At the same time I wish the scope of the second resolution to be distinctly understood, and I hope that no one amongst us will run away with the delusion that the second resolution means that bad things are allowed to stay as they are. I think it my duty to say that in the clearest possible terms. Under the regulations everyone of the existing colleges had to be dealt with and its claims for affiliation carefully considered,

THE TEST OF EFFICIENCY.

The University will not be in a position to say that because the University has established a college every other college must go. The test to be applied will be the test of efficiency. I do not mean to suggest that impossible and imaginary standards will be set out which no one can come up to. It is not difficult to say what the minimum will be. The case of each college will be taken in hand and each college will have an opportunity of stating its own case and making a representation as laid down in the Act. Each college will have the opportunity of making an effort of coming up to the mark. Whether a particular college will make an endeavour to come up to the mark is for the authorities of the college to decide.

If the authorities of all the colleges take it into their heads not to make that improvement, then the blame will be not on the University, but on the authorities of the College themselves. If any of the existing colleges makes an honest effort to have what the Government of India describes as a centre of *bona fide* legal teaching, then according to the recommendation of the Government of India it has a claim for its affiliation. It is quite conceivable that the existing institutions may not be able or may not be willing to come up to the standard, but by amalgamation or otherwise it may be possible to have a *bona fide* centre of legal education either in this city or in the mofussil. I can say this much,—so far as I am concerned everyone of them will have a fair and just hearing. I claim for the benefit of the profession that there should be an honest attempt made to have a scientific training in Law.

Maulvi Mahomed Yusuf seconded the motion.

Khan Bahadur Seraj-ul-Islam asked whether under the new scheme Dacca would get a Law College.

His Honor the Rector replied: I can only say that the Government of Eastern Bengal and Assam are determined on a Dacca College, but the scheme is under consideration.

Mr. A. Earle, the Commissioner of Patna, said that they held a large meeting at Bankipore the other day and without discussing the general question of a Law college at Calcutta, it was held to be absolutely necessary that there should be a Law college at Bankipore teaching up to the B.L. degree.

Mr. M. S. Das placed the wants of Orissa for a similar college before the Senate, saying that there would be at least thirty to thirty-five students, taking all classes.

The motion was then put to the vote and carried unanimously, and the meeting then dispersed.—*The Hindu*, 25-7-08.

The following resolution was passed on the 15th July at a meeting of the Purulia Pleader's Association:—

That this Association wholly disapproves of the suggestion of the Hon'ble the Vice-Chancellor of the Calcutta University to establish one Central Law College and to reserve a monopoly of education in the hands of the University and thereby abolish the Private Law Colleges.

At a meeting of the Midnapore Bar Association, dated July 18, the following resolutions were adopted:—

1. That the Midnapore Bar Association views with great apprehension the minute of the learned Vice-Chancellor of the Calcutta University regarding the imposition of restrictions upon legal education by disaffiliating the various useful law classes in the private educational institutions, and thereby making legal education practically unavailable to the middle class people of Bengal, and records its humble but emphatic protest against the University and the Imperial Government adopting any such measure as is embodied in the learned Vice-Chancellor's minute.

Proposed by Babu Raghu Nath Das, M.A., B.L., Vakil, President of the Association.

Seconded by Babu Monmota Nath Bose, B.L.

2. That copies of the above resolution be sent to the Hon'ble the Vice-Chancellor of the Calcutta University and to the Government of India.

Proposed by Babu Ram Charan Chakraverty, Secretary to the Association.

Seconded by Moulvi Abdul Razak, B.L.

With the approval of Government of India, the Lieutenant-Governor of Bengal has selected Maulvi Saiyid Muhammad Mohsin, a young man of a Bihar family, for deputation to America to undergo a year's training in Pisciculture. Saiyid Mohsin will receive a sum of Rs. 1,500 for his passage and outfit and an allowance of Rs. 3,000 per annum during his stay in America.

AFTER a close and exciting contest the Faculty of Arts of the Calcutta University elected Professor Benoyendra Nath Sen to be a member of the Syndicate in place of Mr. G. W. Kuehler, who as Director of Public Instruction has become an *ex-officio* member of that body.

SOME three years ago several Bengali students were sent by the Provincial Government for a course of agricultural training to the Cornell University in America. Of those who have recently returned three have been appointed to posts in the Bengal Agricultural Department, and one to the Eastern Bengal and Assam Agricultural Department.

THE Supplementary F.A. and B.A. Examination will be held on Monday, the 7th December 1908, and following days at the ordinary centres.

All candidates who were registered for the F.A. and B.A. Examinations held in March, 1908, and have not passed will be admissible to the Supplementary Examinations, and will be examined in the same courses and subjects in which they were previously examined, and according to the standard of the old Regulations and the Rules framed thereunder.

Every such candidate shall be admitted to the Supplementary Examination upon payment of a fee of Rs. 30 for the F.A. Examination, and of Rs. 40 for the B.A. Examination. The fee must be accompanied by an application, the form of which will be supplied by the Registrar's office. The Registrar's receipt for the last Examination must be annexed to this application. If any candidate has lost the Registrar's receipt he may obtain a duplicate from the Registrar upon payment of a fee of Rs. 4. Every applicant for a duplicate receipt must, if necessary, prove his identity to the satisfaction of the Registrar. The fees and applications must be deposited with the Registrar on or before the 14th of September, 1908.

Candidates who were qualified to appear at the F.A. or B.A. Examination of 1907 or 1908 but did not present themselves for either Examination, will be allowed to appear at the Supplementary Examination under Section 11 of Chapter XXVI of the Regulations. A candidate of this kind must produce together with his application two certificates, viz. (1) a certificate showing that he was qualified to appear at the Examination of 1907 or 1908; (2) and a certificate either from the Principal of the College at which he last studied or from a member of the Senate testifying to his good character during the period which has intervened. Each such candidate must pay the same fee as the candidates mentioned in the previous paragraph.

Candidates who were kept back from the Examinations of March 1908 or 1907 because they failed to satisfy the Principal at the College test examination or other periodical examinations as to their fitness to be sent up, will be admitted to the Supplementary Examination only if the Principal certifies their present fitness upon the result of a test examination or otherwise.

Candidates who elect to be examined under this notification will be debarred from appearing at the F.A. and B.A. Examinations to be held under the new Regulations in 1909.

THE Syndicate of the Calcutta University have been asked by the Lieutenant-Governor to nominate six graduates from among the distinguished M. A.'s of 1907, and the distinguished B. A.'s and B. Sc.'s of 1908, domiciled in Bengal, Behar and Orissa, for appointment to the Provincial Service.

A GOLD Medal, to be called the "Beereshur Mittra Medal," will be annually awarded by the Syndicate, at their monthly meeting in December, to the author of the best Essay in English on some subject (as hereinafter provided for, relating to *Indian Economics*.

The Medal shall bear the University Arms on one side and the words "Beereshur Mittra Medal awarded to _____" on the other, and shall be presented publicly at the Annual Convocation of the Senate for conferring Degrees.

The subject for the Essay for each year shall be specified by the Syndicate and announced by the Registrar in the official Gazette and in such newspapers as the Syndicate shall think proper, at least one year before the award of the Medal.

The competition for the Medal shall be limited to candidates who have at any time been admitted to a Degree in this University.

Each candidate for the Medal shall be required to send his Essay to the Registrar in a sealed cover under a distinguishing motto. The name of the candidate must also be forwarded at the same time in a sealed cover bearing the motto outside.

The Essay in competition for the Medal must reach the Registrar not later than the 1st October next preceding the award.

An Honorary Examiner shall be appointed by the Syndicate, who shall adjudicate upon the merits of the work submitted by the candidates.

The Medal shall not be awarded to the author of any Essay unless such Essay furnishes evidence of research or special investigation, or embodies useful suggestions relating to the subject.

The successful candidate shall be required to publish his Essay.

The names of the Medallists shall be published in the Gazette, as also in the University Calendar.

If in any year no candidate evinces sufficient merit to entitle him to the Medal, the income of the year shall be added to the Fund, and invested accordingly.

The following subject has been prescribed for the "Beereshur Mittra Medal" to be awarded in December 1909:—

"The Indian Monetary System."

Essays for the Medal must reach the Registrar not later than the 1st of October 1909.

PROFESSOR Arthur Schuster, who recently lectured in Calcutta on the Progress of Physics, has very generously decided to hand over the amount of the honorarium, which he received from Calcutta University, for the benefit of poor students wishing to pursue a course of post-graduate work or research at Presidency College. Principal James, and Professors C. W. Peake and J. A. Cunningham have been nominated to act as trustees of the fund.

PROFESSOR Ranade, who came from Bombay to take charge of the Technical Department of the Bengal National College, Calcutta, is said to have resigned his place and gone back to Bombay.

THE Senate of the Calcutta University has received on behalf of the estate of a wealthy Bengali land-owner who died a short time ago, Government Securities of the value of two lakhs of rupees, with accumulated interest of Rs. 12,000. The endowment has to be utilized in sending students to Europe and America for the study of applied Sciences. A further sum of Rs. 40,000 is expected from the same bequest and for the same purpose.

PUNJAB.

THE Syndicate of the Punjab University has appointed special Sub-committees to investigate the complaints made with regard to the results of the last Shastri (Honours) Examination in Sanskrit and the examination for the degree of Bachelor of Laws, and to report to the Syndicate. These Sub-committees are now doing their work, and it is hoped, says the Lahore paper, that their reports will be laid before the Syndicate before the commencement of the University vacation. The results of these examinations were unusually disastrous this year. In the Shastri examination three out of 45 were successful and in the LL.B. three out of 25.

PROPOSALS are under the consideration of the Punjab Government for the re-organisation of the Government Engineering College, Lahore.

THE Syndicate has ruled that the refund of Examination fees should in no case be allowed, and that fees paid by candidates who are unable to appear in an examination owing to illness

should be placed to their credit only for the next examination, and then only in case the application is duly supported by a Medical certificate. All applications for deposit of fee must be within one month from the date of the commencement of the examination.

ANENT the scheme for strengthening both the equipment and the instructional capacity of the Lahore Medical College the University Syndicate is of opinion that the strengthening of the staff both of professors and demonstrators could be carried out at once without waiting for new buildings and the equipment of existing laboratories could also be improved at once. It has therefore decided to call the authorities of the Medical College under Section 23 (3) of the Universities Act to take action during next year with regard to such matters as the strengthening of the staff of demonstrators, the improvement of the laboratory equipment and the supervision of the lodgings of students.

UNITED PROVINCES.

THE United Provinces Gazette contains the results of the Allahabad University examinations of April, 1908, the list occupying forty pages. The percentage of failures is not unduly high, though numerous; but the bulk of the successful candidates appear in the third division.

IN the entrance results of the Allahabad University, we are glad to find the name of Miss Vidyawati Seth. She is the first Hindustani girl from an orthodox respectable Hindu family of Oudh, who has passed the Entrance examination. We congratulate her on her success.

THE Rajah of Jehangirabad has given a donation of Rs. 25,000 for the erection of a new boarding house for the Aligarh College and expressed the wish that the boarding house be named after Sir John Hewett. His Honour has accepted the Rajah's proposal. The Rajah is already a great benefactor of the College, having previously given large sums, including Rs. 20,000 for the promotion of Arabic learning.

Five candidates from the Jubilee High School, Gorakhpur, were sent up for the last High School Scholarship Examination and they all have won Government scholarships.

On 2nd December 1907, the University Inspectors inspected the Canning College, Lucknow, on both sides, Arts and Science, and submitted their report to the University. In this, they condemned, it would appear, the accommodation, the staff, and the laboratory equipment as insufficient. Mr. Pirie, the Principal, has prepared a memorandum proposing the transfer of the College to Government without altogether effacing its distinctive characteristic as the Taluqdar's College. The new needs require the guaranteeing of an expenditure of about Rs. 30,000 rising to Rs. 45,000 a year, if the Arts side is to be improved, Physical and Chemical laboratories are to be made up to date, and the teaching of these two subjects and Mathematics made efficient, and a chair of Biology founded. It means, on a rough estimation, a capital fund of about 12 lakhs of rupees. Mr. Pirie's proposal is that either the Taluqdars should make an endowment of this amount or hand over the College to the State, allowing it to become a "Taluqdari-aided" Government Institution.

The Hislop and Morris Colleges in Nagpur have been affiliated with the University of Allahabad in Science up to the standard of B. Sc. examination up to the year 1909.

Plans and estimates are now being prepared for the Technological Institute which the United Provinces Government propose to establish at Cawnpore, as being the most important commercial and industrial centre in the United Provinces. Dr. Phillips, F.C.S., Instructor of Chemistry at the Civil Engineering College at Roorkee, has been entrusted with the working out of the scheme.

One direction in which the United Provinces Government are taking action in connection with their scheme for the improvement of the indigenous industries of the Provinces is the establishment of schools for teaching chrome-tanning and boot and shoe-making at Agra where the necessary buildings are believed to be available for the purpose.

Miss L. Singh, M.A., the talented Professor of Isabella Thoburn College, Lucknow, has sailed for America. She will be away from home for nearly two years.

Raja Udai Partap Singh, C. S. I., of Bhinga, has founded an endowment of ten lakhs of rupees in $3\frac{1}{2}$ per cent. Government Securities to be vested in the Treasurer of Charitable Endowments, United Provinces, for the purpose of establishing, for the benefit of *bona fide* Kshatriya youths, a first-grade English school with a boarding house and orphanage at Benares, to be called the Kshatriya High School, together with fifty scholarships aggregating Rs. 3,000 per annum to be tenable thereat and an adequate number of free studentships. His Highness has also agreed to place the sum of one lakh of rupees in the hands of Government for building purposes. Among the conditions on which the Raja desires the scheme of administration to be drawn up are: That the management of the endowment and of the school be under the control of Government, assisted by a Committee of Management whose deliberations will be subject to the approval of Government. (2) That the Committee of Management will be composed of five *ex-officio* members and eleven Kshatriya members. (3) That the teachers and pupils of the institution, before their appointment or admission make a solemn affirmation of loyalty to the Government before a Magistrate, or before the Head Master, if so empowered, in some form to be prescribed by the Committee of Management with the approval of Government.

MYSORE.

The educational year 1905-6 in Mysore was remarkable for the great increase in the number of pupils in attendance at both public and private schools. The total that year reached the high figure of 123,057 in 4,093 separate institutions. The report just issued for 1906-7 does not show such striking results. As a matter of fact there is a marked fall from the attendance reported last year, the numbers now being 117,951 pupils, distributed among 3,924 institutions. The falling off in the total number of schools exclusively affects the private institutions, of which there are 177 fewer than before, the number of public schools having increased by eight. But though this fall is regrettable, there is cause for satisfaction in the fact that the attendance for 1906-7 was still much better than in any year previous to 1905-6. The decline was chiefly in the primary schools, and is attributed almost entirely to the wide prevalence of plague or other epidemic

diseases. Almost all the districts of the province suffered more or less from one or more epidemic diseases of a virulent type. The percentages look somewhat disquieting. The percentage of boys under instruction to male population of school age diminished from 25.04 to 23.90, and that of girls under instruction to female population from 4.86 to 4.76. Here are some comparisons: The corresponding percentages in 1905-6 were 28.9 and 5.4 for Madras, 31.8 and 5.98 for Bombay, and 28.47 and 2.92 for Bengal. Since 1898, though the village population has gone on increasing, there has been no material increase in the number of village elementary schools, owing to want of funds. Indeed all the factors are here: a comparatively rapid growth of population, plague epidemics affecting attendance, and a stationary number of schools. Thus the small percentage.

Twenty-eight candidates for the competitive examination for admission to the Mysore Civil Service have been approved by the Maharaja. The examination will begin on the 9th November. Fifteen candidates are from Madras, twelve from Mysore, and one from Bombay.

It is rumoured that the Government of His Highness the Maharaja, are contemplating to establish an Ayurvedic Medical College in Mysore in connection with the Maharaja's Sanskrit College, Mysore.

TRAVANCORE.

The Travancore Government has issued the following order in the Education Department regarding the admission of Eazhavas into the public schools in the State.

"The only Sirkar English Schools not now open to Eazhavas are those at Shertallay and Vaikom. The former is at present held in the Palace buildings, steps have already been taken to acquire a new site for the school. The Chief Engineer is requested to include the construction of a new building for the school in the list of works to be taken up in 1908, and to have it completed in the course of that year. The objection raised to the admission of Eazhavas into the Vaikom school is that it is situated near the road leading to the temple, on both sides of which high caste people live. This is not a valid reason for the exclusion of Eazhavas from the school. The school is at present situated

in a locality to which Eazhavas have access. It is several furlongs away from the temple. The mere fact of its situation on a road which leads to the temple or that high caste people live on both sides thereof could not be valid ground for excluding an important section of His Highness' subjects from the benefits of the instruction imparted in the school. The Inspector of Schools, Northern Range, is directed to throw open this school at once to the Eazhava boys also. Among the Sirkar Vernacular Boys' Schools the objections raised in reference to those at Thiruvettar, Alleppey and Changancherry, would disappear when these schools are shifted to the buildings of the local English Schools, which latter have been abolished. Admission could be granted to Eazhava boys in Vezhapra Vernacular Middle Schools, a building for it having been recently rented by Government. The objection raised in regard to the Thodupuzha Vernacular Middle School for boys is that caste girls attend the school. Government do not consider this to be a valid ground for the non-admission of Eazhava boys and they therefore order the admission of the latter into the school. If there is a sufficient number of girls, a Girls' School may be opened separately. All Sirkar Vernacular Boys' Schools in the State are declared open to Eazhava boys.

INDIA (GENERAL).

The State technical scholarships awarded in 1908 are:—Madras: V. G. Nair, textile chemistry; Central Provinces: C. S. B. Naidu, textiles; Bengal: M. N. S. Gupta, mining, and R. T. Rout, leather tanning; Bombay: G. R. Kele, bleaching, dyeing and printing; Punjab: Muhammad Amin, textiles, and Sheo Parsbad, textiles; United Provinces: Jwala Prasad, cloth dyeing and printing, and Muhammad Yusuf, dyeing; and Eastern Bengal and Assam: D. C. Nag, mining.

The Secretary of State has appointed Mr. J. M. Symns, M.A., to be an Inspector of Schools in the Indian Educational Service, in Burma.

The Parsi learns that in view of the present unrest in India the doors of Oxford and Cambridge are to be closed against Indian students. Our contemporary says that a Parsi student of Bombay who proceeded to England a short time ago to compete for the Indian Civil Service applied for admission into one of the Colleges but was refused on the ground of his being an Indian. Correspondence then ensued, and when the student produced certificates of his good behaviour from Professors of his College in Bombay he was eventually admitted.

The Government of India have this year awarded the State scholarship, tenable in Europe by domiciled Europeans and Eurasians, to Mr. Richard Pomeroy Dalley who was nominated by the Government of Bengal.

THE Oxford Doctorate of Letters has been conferred on the Bishop of Calcutta, and Doctorates of Divinity on the Bishops of Shanghai, Tokio, and Lahore.

On the recommendation of Sir John Hewett, the Government of India have sanctioned an award of State technical scholarships of £150 each to M. Jwala Prasad, a student of the B. Sc. Class of the Muir Central College, Allahabad, and to Syed Muhammad Yusuf, formerly of the Aligarh College and at present a student in the technical class of the Thomason College, Roorkee, to enable them to study in England the processes of cloth dyeing and printing. The selected candidates are required to arrive in England by the middle of September, and in the meantime the Secretary of State will select the institution at which they shall prosecute their studies.

THE honorary degree of Doctor of Civil Law was conferred on Mr. Lloyd George, Sir Robert Hart, and the Prime Minister of Nepal at Oxford.

THE Association for the Advancement of Scientific Industrial Education among Indians has despatched from Calcutta a party of eight young men, who will visit England, America, Japan, Germany, and other countries, with the object of acquiring knowledge of various arts, manufactures, industries, and modern business.

THOSE interested in the study of Sanskrit literature will be glad to hear of the publication of a commentary on Madana's "Parijatamanjari" by Pundit Lakshmana Suri. It has been printed at Leipzig at the cost of Dr. E. Hultzsch, formerly Epigraphist to the Government of Madras and now Professor of Sanskrit at the Halle University. The commentary occupies only nineteen pages but is learned and to the point. Pundit Lakshmana Suri was lately the recipient of a handsome donation from the Government of Madras for his brilliant version of Bana's "Kadambari."

Foreign Notes.

GREAT BRITAIN.

THE Drapers' Company has contributed £20,000 to Oxford University for a new electrical laboratory, to be attached to the University Museum. Lord Curzon, in a letter to the *Times* about the reports of what is needed by Oxford, states that since he, as Chancellor, inaugurated the appeal to the nation in May last year, over £120,000 has been contributed towards the re-endowment of the University.

THE installation of Lord Morley of Blackburn as Chancellor of the University of Manchester took place at the University on the evening of Thursday, the 9th July, in the presence of a large and distinguished gathering of statesmen and representatives of all departments of learning. Before the installation ceremony, Mr. Haldane, Secretary of State for War, who later in the day received the honorary degree of LL. D., inspected the Manchester University officers' training corps and gave a brief address to the members of the corps and a large number of students and professors.

SPEECH BY LORD MORLEY.

The installation of Lord Morley subsequently took place in the Whitworth-hall. Replying to an address presented to him by the Vice-Chancellor, Mr. Alfred Hopkinson, Lord Morley said:—His imagination was stirred by thinking that the new type of University—the type represented by the Manchester University—was founded by a homely man of business living in Manchester, and who, with a presence of the wants of the age which struck one as truly remarkable, and done for the new age what kings, princes, and cardinals of the Church did when they established the great and venerable foundations of Oxford and Cambridge. The differences were very obvious. They in Manchester had not got the splendid charm, the glorious inherited associations of those two ancient seats of learning: but that would come (cheers), and in the meantime it was not all loss. There was a certain gain in a learning and teaching body being in constant close, and responsible contact with so vigorous and energetic and intrepid a community as the people of this part of Lancashire. A great change was coming over the world, and especially the Lancashire world. When John Owens first conceived this idea in 1850, Lancashire and the whole industrial and commercial community of the country were entering upon a new age. Old ideas were fading before new demands. Literature was beginning to pale before the acquisitions of science, and new industrial demands of every kind arose. John Owens in his testament, made one or two very remarkable provisions which he (Lord Morley) ventured to hope

all Universities that existed and were founded on the type of Manchester University would bear in mind. First of all, he thought of teaching before building. (Hear, hear, and cheers.) Though he was preparing for the new, he did not quarrel with the old; and that was an admonition that might be commended to some of them. (Laughter.) The institution was for higher education in such branches of learning as were usually taught in English Universities. He was not going to enter upon the difficult controversy of compulsory Greek. (Laughter.) He had a view upon it, but probably they had a better, and a better justified one. He was content to leave that great theme where it was; but on the day when they were quite sure that what we called "the Ancients" had nothing to teach which it would be good for them to learn—on that day they had his consent as Chancellor to leave classical elements out of their education, and not before. (Cheers.) He was very sure that day would not arrive in a hurry. (Hear, hear.) He urged them not to allow technical teaching, valuable as that science was, to throw into a second place the true object and scope of a University. It was a remarkable and encouraging fact that there had been no disposition during the last 20 or 25 years among the many benefactors of these institutions to limit their benefactions. On the contrary, some of the most remarkable of these benefactions had been for music, for philosophy, for theology, and for literature. This would seem to justify them in hoping that merely and purely technical teaching would not drive out teaching of the University type. They had now, thanks to the late Mr. Christie, an admirable library—and some had said that a library was a University. He rather agreed with those who said in the words of a great man who had studied University teaching, "The general principles of a study you may learn by books at home—the detail, the colour, the tone, which make it live in us all, these you must catch from those in whom it lives already." The existence of a University gifted with a great, energetic, and intrepid spirit like that of Lancashire and the surrounding districts diffused an intellectual atmosphere which made life better worth having for everybody who had the opportunity of breathing it. He would commend to them the words of Bacon: "When you read, when you study, remember you do it not to contradict or confute, not to believe or take for granted not in order to find talk and discourse, but to weigh and to consider." That was what men ought to learn in a University, and not even the splendid enterprise of the rival influence—so to call it—the Press, dispensed them altogether from the necessity of weighing and considering on their own account. (Laughter and cheers.) There was one subject on which he would like to touch. They had spoken of education as it affected those in the hall who had had access to fountains of learning, the treasures of knowledge; but, after all, work and manual toil were the lot of the world; the majority subsisted by working. He did not know anything more important and desir-

able than that they should extend to those who made so many sacrifices in their hard lives, in such measure as they could, some knowledge of the kind that made life enriched, enlarged the brain, and stimulated all the pulses of common human heartedness.

DEGREES CONFERRED.

At the conclusion of Lord Morley's speech he conferred the following honorary degrees:—

LL.D.—Sir Frank Forbes Adam, Mr. Balfour, Mr. E. J. Broadfield, Mr. Andrew Carnegie, Lord Courtney of Penwith, Lord Curzon of Kedleston, Sir Edward Donner, Mr. Haldane, Sir H. F. Herbert, Sir W. H. Houldsworth, and Sir William Mather.

D.D.—Dr. A. M. Fairbairn.

Litt. D.—Sir E. Maunde Thompson, Mr. Arthur John Evans, Mr. William Farrar, and Professor Henry Jackson.

D.Sc.—Emeritus Professor Gamgee and Mr. James Cosmo Melville.—*The Hindu*, 25-7-'08.

In the Honorary degree lists at Oxford this year are to be found, among others, the names of the Chancellor of the Exchequer, Sir E. Satow, and Professor James Ward, the Cambridge philosopher. Cambridge will honour the Prime Minister, the Duke of Northumberland, Lord Halsbury, Sir John Fisher, Sir Hubert Von Herkomer, Mr. Rudyard Kipling, Sir G. Trevelyan, Sir J. Ramsay, Sir W. Crookes, Sir A. Noble, the Hon. C. A. Parsons, Mr. Horace Lamb, Professor Alfred Marshall, and Professor Liveing.

ANOTHER modern language—English—is apparently to receive increased attention in the London Science Faculty, for the Regulations now lay down that "any Dissertation or Thesis submitted for the D.Sc. Degree must be satisfactory as regards literary presentation, as well as in other respects."

LONDON University is blamed by the Vice-Chancellor of Manchester University for the delay in establishing a mutual recognition of matriculation certificates with Manchester, Liverpool, Leeds, Sheffield. Dr. Hopkinson says that the four Northern Universities have declared themselves perfectly ready to enter into an agreement with London to this effect.

THE Trustees of the Oxford Endowment Fund have approved the inauguration of a lectureship for the Japanese language and literature.

Mr. Ratan Chand Khosla, B.A., of the Government College, Lahore, has passed the Sanitary Examination of the Royal Sanitary Institute, London. He passed his Civil Engineering Examination in London last year.

The first International Moral Education Congress is to be held at the University of London from September 25 to 29. The Congress, which has the practical object in view of improving the moral education offered in schools, has a thoroughly representative General Committee, of which M. Léon Bourgeois, late Premier of France, is President. Three hundred persons, representing modern educational thought in all the leading countries of the civilised world—notably Austria, Belgium, France, Germany, Hungary, Italy, Japan, Scandinavia, Switzerland, and the United States—constitute this General Committee. The Executive Committee, too, of which the Chairman and Vice-chairman are respectively Mrs. Sophio Bryant and Professor J. W. Adamson, is composed of practical educationists. The Congress has the good wishes of the King and the patronage of the Ministers of Education for England, France, Italy, Spain, Belgium, and other

countries. Thoroughly competent specialists are being asked to read papers, and the subjects will include: Matters of school organisation, methods of training and teaching, discipline, direct and indirect moral instruction, and the relation of moral education to religious, intellectual, æsthetic, and physical education. Great Britain is undertaking the main organisation of the Congress, and is holding itself responsible for the greater part of the necessary expenditure.

AMERICA.

The Yale University Scientific Expedition is now on its way to Desolation Island, at the Pacific entrance to the Straits of Magellan, with a view to engage in a thorough and systematic search for skeletons of pre-historic giants alleged to exist there.

SECONDARY school pupils in America number about 11,000 to the million of population, we learn from the U.S. Commissioner of Education's Report for 1906. The growth of public, as compared with private, Secondary schools has been remarkable of recent years.

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166, Bowbazar Street, Calcutta.

The Educational Review.

In a valuable article on *Alte und neumodische Erziehungswissenschaft* contributed to a Berlin weekly, Professor Paulsen pleads for the *educatio strenua* of former days and counsels all teachers to dismiss once for all the theorists of overwork and coddling. Three great imperatives are regarded by him as the guides to all true education. They are: learning to obey; learning to apply oneself; learning to repress and overcome one's desires. Obedience does not mean a merely outward submission to external force and authority, but the voluntary subordination of one's own will under necessity, be it natural or social, to the will of better and higher intelligence. Obedience must be secured not by harshness, moodiness and arbitrariness but by wise firmness. If the aim of education is to prepare the coming generations for the solution of the problems of life, the watch-words of education cannot be lenience, relaxation and sympathy; on the other hand, they ought to be the encouragement to effort, to untiring exertion, to the straining of one's powers even to the point of exhaustion. As bodily training is not the be-all and end-all of education, too severe hygienic demands ought not to hamper the rest of life's necessary aims. To speak in the hearing of children of over-work and over-taxation may lead to regrettable consequences, for it may give the child the best excuse for laziness and for regarding the school as unbearable and detestable. The sages of all times and nationalities have taught that self-denial is the last and highest stage of wisdom. Education must therefore develop in children a desire for self-activity, and discipline them to take pride in voluntarily renouncement of pleasure and enjoyments. The

education which is based upon these three imperatives forms the best means of developing that strength of will, which is the surest safeguard against the impulses of puberty, which threaten the overthrow of the moral self.

It is a well-known fact that in the matter of secondary education Germany is ahead of most other countries. If India is ever to play a part in the keen competition of the world, the Indian system of education must undergo reform according to German models. In Germany great stress is laid upon class-room work. In our schools the boy meets with his new lesson first in his text-book. A certain portion of the text-book is assigned for preparation, and the teacher ascertains in the class-room by means of recitation the degree of faithfulness with which the pupil has performed his duty, but this recitation rarely calls into exercise the power of attention and the faculty of reasoning. The drill of the German class-room is entirely different. The instruction comes to the pupil first from the lips of the teacher. The text-books are put aside, and the pupils are made to recall previous instruction, draw inferences, and memorise new material so that their mental powers are kept in a state of tension from the beginning to the end of the recitation. All taking of notes is discouraged, and teachers use neither books nor notes of lessons during their instruction. Text-books are regarded merely as helps in reviewing at home the lesson that has been taught in the class-room. For training the attention, the memory, and the power of rapid reasoning about a subject there is probably nothing like this German method. In our schools undue emphasis is laid on examinations. In German schools, on the other hand, examinations play

no role, and there is therefore no temptation to degrade study to a mere means of passing examinations and to resort to vigorous cramming as the time for the examination draws near.

In an address delivered at a meeting of the High school physics. Headmasters' Association of the city of New York, Dr. G. Stanley Hall made the following valuable remarks on the teaching of physics in the high school. "Again" says Dr. Stanley Hall, "there is high school physics, chosen half a generation ago as the entering wedge of a larger dispensation of science for the secondary school and on which professors of this branch have lavished so much painstaking care and published so many text-books and courses, while despite all these promoters the subject has steadily declined until to-day only between seven and eight per cent. of high school boys take it at all in a given year. Here, the larger pedagogic view must take into account the historic development of this subject before it was so dominated by mathematics, must weigh the natural interest of boys in scientific toys, the fact that many libraries report that more of them read the scientific American and its supplement than any other journal, must weigh the value of the lives of the great physicists and of all its popular aspects. Argentina is now seeking to develop a secondary course, making such large use of the apparatus of conjurors and of scientific toys that the course might almost be said to be based upon these." In India teaching is so dominated by public examinations that it is found almost impossible to apply those pedagogical methods which are likely to secure the most normal and maximal development of

rising generations. Still Indian teachers will find it beneficial to employ, at least occasionally, the methods whose value Dr. Stanley Hall has brought to light.

In another place will be found the minute of the Vice-Chancellor of the University of Calcutta proposing the establishment of a Law College in connection with the University. One reason for this proposal is that none of the existing colleges can be regarded as efficient judging them from the point of view of the requirements of the New Regulations, which contemplate a thorough training in all the subjects of examination. The proposed Law College will be a full-time institution like the colleges of Medicine and Engineering. It is hoped that this Law College will try to attain the high degree of excellence characteristic of the law colleges connected with the Universities of Columbia and Harvard in the United States and of Tokyo in Japan. All this sounds well on paper but in practice not one-tenth of these claims put forward by the Vice-Chancellor will be realised. We are sure that the eminent judge of Calcutta who has prepared this scheme, will not debar the barristers, who come out of the Law Inns of England, from practising in Indian Courts. We should like to know what exactly is the high excellence attained by these. It is a well-known fact that students who fare badly in Indian examinations come out successfully as barristers. Further we, who have some experience of the full-time Law College of Madras, know how little is the help rendered by professors to students. The Madras Law College is a source of great profit to the Government but of no special advantage to the student. As Carlyle said in his rectorial

address, the best university is a library of books, and often too much is claimed by schools and colleges for the training they give to students. The real truth often is that the success achieved by a student is not due so much to the college he belongs as to his diligence and ambition.

Justice Ashutosh Mookerjee, we fear, has been infected with the disgusting cant about the lack of discipline in colleges. "No one," says the Vice-Chancellor in his minute, "deems it the duty of the University to encourage or countenance a system under which the first art practised by young aspirants for entrance into a learned and honourable profession is defiance of discipline and evasion of the University Regulations." Does the evasion of the regulations necessarily imply a lack of discipline? May there not be something wrong in these regulations which necessarily lead to their evasion? At the last annual congress of the British University Students one of the speakers pleaded for the abolition of compulsory attendance at classes, pointing out that a great many of the lectures were needless and some of them were worthless. This shows the direction in which the wind tends to blow. In German Universities the students elect about what lectures they please, attend them or not as they choose, live where they please and do just what they want. Nothing is forced upon the student. Does this imply lack of discipline? This is the best way of offering opportunities for self-direction and the cultivation of independence of thought and action. If our lawyers are to be the independent leaders that they have till now been, all attempts to run law colleges on the military principle of unquestioned authority above and unquestioning obedience below should be thwarted.

"It is indeed one of the most distressing features of the times," writes Rev. C. F. Andrews in the current number of

The Modern Review, "a fact which shows how painfully out of touch the educational authorities have become with the emotion and thought of the country, that in the face of the new forces which have arisen, they have nothing more to offer than generalities about students not taking part in politics. One hoped that constructive measures would have been taken to meet the new conditions, but as yet nothing positive or constructive has appeared, and a policy of drift, if it deserves to be termed a policy, is the only thing apparent. In the majority of schools and colleges a conspiracy of silence is maintained between teachers and students on matters of most vital interest. This can bode no good and can only end in divorcing education from life. What is needed instead of this negative position, which leaves no room for sympathy, guidance or instruction, is that Indian teaching should be frankly patriotic in its tone and character in India as English teaching is in England; that boys should be taught positively and systematically, as one of their first duties, to love their country, and should be sympathetically guided in the principles of a reasoned and intelligent patriotism. At present they are far too often led to look upon their teachers with suspicion and distrust, because they do not lead them, or even speak to them, on such subjects.

"If instruction is to be carried on with that sympathy and *rapprochement* with the pupil which modern educational theory requires; if India's great and distinctive contribution to the world of thought is not to be stifled in its new birth;

if the budding hopes of a great Indian future are not ruthlessly to be crushed, then reform must be undertaken on what may be called 'national' lines. From the primary stage onwards a revision and re-writing of text-books will be needed—a series of 'Readers,' 'Histories,' etc., which do not, as is too often now the case, depreciate the pupil's ideas of his own country, in order to make him appreciate another. But above all and beyond all there would be the need of teachers, whose hearts were with their pupils, who would not look upon their work as a drudgery and upon India as a place of exile. This would mean and should rightly mean, that Indians themselves would be more and more entrusted with the work and given more responsibility, both in reforming the present system and laying down the new lines of advance."

The Indian teacher and student cannot feel sufficiently thankful to Rev. C. F. Andrews of Delhi for lifting up his feeble voice in support of the aspirations of the Indian people and of the claims of the Indian teacher, though it may be only *vox clamantis in deserto*. We have often wondered why other educationalist Christian missionaries, who profess to be working in India for the good of the country, do not raise their voice against the wrongs done to the Indian people. We hope that they have not at heart adopted the maxims of Sterner and Nietzsche, whose supreme goal in life is to get rich, make display, and give themselves all the pleasures their bodies can bear, while outwardly professing to be the followers of Jesus that died for his principles.

In the current number of the *Journal of Education*, London, the pitfalls of the teacher of Arithmetic are discussed

by Mr. P. B. Ballard. He lays down the following as the main principles underlying the teaching of arithmetic. The teacher's main aim should be to graft the arithmetic firmly upon the actual facts of life and then to proceed to the investigation and application of the laws of number. Hence the arithmetic course should progress gradually from familiar concrete cases to abstract principles, leading up to the still more abstract science of algebra. The natural relationship between arithmetic, algebra and geometry should not be forgotten; the dissolution of this partnership leads to looseness of mental grip. Too much time spent in example-grinding secures speed and accuracy in mechanical processes at the expense of intelligence. Any system which enables a pupil to compute with ease but think with difficulty stands self-condemned. The practice of making a boy of fifteen or sixteen apply principles which he does not understand to commercial transactions which he will never carry out, cannot be too strongly deprecated. A proper training in arithmetic must lead to clearness and precision of thought and statement. Teachers should encourage pupils to invent problems for solution by the whole class.

We repeat once again our views concerning the scope and method of working a provident fund for teachers. The scheme must be such as to include all teachers in aided institutions. There ought to be three contributories—teachers, managers and the Department. This principle was admitted by the English committee appointed prior to the passing of the Act to investigate into the conditions of teachers' pensions. The scheme must be made compulsory and must allow for the return of the contributions of the teachers

with interest when they die or leave the profession within a prescribed period; it must take cognizance of transfers and entitle teachers to the whole or a part of the contributions of the managers and the Department if certain regulations are satisfied. It would be most advantageous to teachers, if the Department would see its way to manage the fund.

"The vision splendid of Indian youth" is the simulating title of an article by a disappointed member of the Indian Civil Service to the current number of the *Nineteenth Century and After*, in which such offensive and damaging statements are made as to the morality of the Indian student that we feel bound to repudiate the calumnious attack upon our students. The writer says that "the brothel is almost as marked a feature of student life as the class room. Indeed, students not uncommonly lodge in prostitutes' houses." We should like to know if the writer could furnish one well-attested instance in proof of this charge. We fear that this Englishman has, by his disappointment, become so foolish and blind that he has lost all sense of honour and self-respect. We do not say that the Indian student is entirely free from blemishes, nor that the environs of schools and colleges in India are what we, in the interests of our students, should desire them to be. But we think that not even the worst enemy of the political aspirations of New India can find any cause for making such calumnious statements in a responsible journal as will damage for ever the reputation of the Indian student. The writer further says: "Under existing arrangements young Englishmen are appointed direct to

the Department direct from college, and enter upon their duties as Inspectors or Professors in complete ignorance of the language, the history, the customs, and the sentiments of the people whose growth is entrusted to their control." This may be true, but what has it to do with the morality of the Indian student? We leave it to the British professors of Indian colleges to offer a reply to the charges that have been levelled against them.

The teachers of gymnastics in Indian Jui-jitsu schools would do well to acquaint themselves with the Japanese system of physical training known as jui-jitsu. It is claimed that jui-jitsu makes for the strength of muscles of the back as do none of the European games or exercises, which have been introduced into our country. A small under-sized Japanese can out-march European soldiers and an under-sized citizen of the Mikado's kingdom can lift burdens, before which European giant porters quail; all on account of the training of jui-jitsu. Detailed directions for training in jui-jitsu are given in an interesting and valuable book by H. Irving Hancock, called *Physical training for children by Japanese methods*. According to Mr. Hancock the essential principle of jui-jitsu is found in the "resistance of the muscles." Usually two people must work together. The pressure of the muscles used by one in any given exercise is resisted by the use of the same muscles in the opponent. The children would surely be benefited by a course of jui-jitsu under a careful and efficient teacher, especially if it were supplemented by athletic training it would make for all round development.

SL

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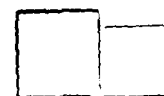
VOL. XIV.

AUGUST, 1908.

No. 8.

MATHEMATICS.

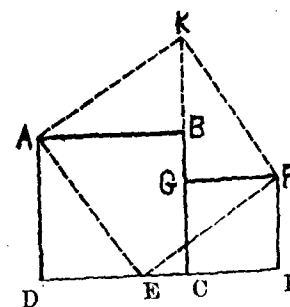
4. [B. KRISHNAMACHARI, M.A.] A plank of



wood is of the shape the sides of the square being 4" and 3". Cut them in the least number of pieces to form a square of side 5".

Solution by the Proposer.

If in the figure CE be taken equal to 1" and the figure be cut along the dotted lines EA, EF, the pieces ADE, EHF will go in the spaces KGF, and KBA the whole forming the square AKFE of side 5".

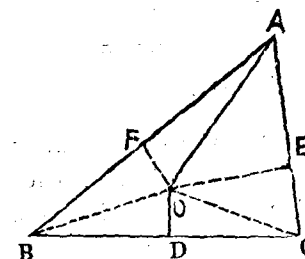


This method of dissection has been one of the proofs offered of Euclid I. 47.

QUESTIONS FOR SOLUTION.

5. [B. KRISHNAMACHARI, M.A.] Point out the fallacy in the following demonstrations for proving every triangle isosceles.

Let ABC be any triangle. Bisect BC in D and thro' D draw DO perpendicular to BC. Bisect the angle BAC by AO.



i. If DO and AO do not meet, then they are parallel.

$\therefore AB = AC$.

ii. If they do meet, let it be in O. Draw OE, OF perpendiculars to AC, AB. Join OB, OC.

The triangles AOF and AOE are equal.

$\therefore AF = AE$.

Again the triangles BOF and COE are equal, for $OF = OE$ and $OB = OC$.

$\therefore FB = EC$.

Adding $AB = AC$ and therefore every triangle is isosceles.

6. [B. KRISHNAMACHARI, M.A.] If $\tan \alpha$, $\tan \beta$, $\tan \gamma$ be the three values of $\tan \frac{\theta}{3}$ obtained when $\tan \theta$ is given, prove that $\pi \sin (\beta + \gamma) / \sin 2 \alpha = 1$.

7. [B. KRISHNAMACHARI, M.A.]. If the sum of two opposite angles of a quadrilateral of sides a, b, c, d in which a circle can be described is a right angle, show that the radius of the circle is $\frac{2\sqrt{abcd}}{a+b+c+d}$.

OLD QUESTION AS YET UNSOLVED.

3. [KELA DEVA RAO, B.A., I.T.]. A plank of wood is 16" long and 9" broad. Show graphically how it can be cut into two pieces which will fit the top of a box 12" square.

The Editor, *E. R.*, invites Mathematical problems and solutions.

OUR TEACHERS' TENURE.

AMONGST the ways and means to improve the status of the Indian teacher is certainly the betterment of the security of his tenure. Uncertainty of tenure is to be condemned both in the interests of the teacher and of the taught. A teacher does not give his best work to a school, where he is not certain of staying as long as he likes or even reasonably long. And how could a teacher be certain of his post when he sees around him his brethren sent home just before a long vacation and re-engaged after it, a Hindu teacher sent away the moment a Christian is available, a teacher served suddenly with a notice to quit, if he would not work on a lower pay or do more work on the same pay? But such in fact is the situation in which our teachers often find themselves, if you bar service under Government or Local Boards. Besides dispensing with the services of teachers for considerations of economy, managers not infrequently dismiss teachers from considerations of discipline. And in either case

there is no educational tribunal to whom an appeal could be made and justice secured. The Madras Government—laudably no doubt from some points of view—decline to interfere either with the appointment or dismissal of masters in non-Governmental schools, for they concede in the "*Hints*" for secondary schools, that "the appointment and dismissal of the Headmaster rest entirely with the management." And what is said of the Headmaster applies, of course, with greater force to the assistants. But at the same time, one is tempted to ask whether it would not considerably improve matters, if the Department reserved to itself a right of interference at least in cases of dismissal, if not of appointment, should the aggrieved teacher choose to seek such interference. There could arise no question of right in the matter, for the State grants aid and gives free advice through its Inspectors, and the State is bound to take interest in the well-being of its teachers, who after all are the fashioners of the future citizens of the country. Nor could it be said that the managers—be they individuals or committees of three's, five's, seven's or nine's, all holy numbers, forsooth!—always show either the capacity or character to discharge their duties dispassionately and with a single eye to the interests of the school alone. Caste prejudices, religious bias, personal vanity, old-time notions of the inconsequential *pyal* teacher, mutual distrust, a factious spirit of the most aggressively personal type, a pliancy of the most effeminate character, purely private interests, a lack of organising capacity often characterise the school boards: and an educational institute of appeal would, in my humble view, certainly protect the teacher from the vagaries of such boards, while the very knowledge of such a supervision would render

these vagaries more and more infrequent. At any rate so thought the Scottish teachers and have fought their long fight, which has just been brought to a successful issue by the Scottish Grand Committee granting the concession contended for:—a concession which gives the Scottish masters as much security of tenure as I plead for on behalf of our own.

The clause in which the Committee grants this boon runs thus: "If at any time within six weeks after the adoption of a resolution for the dismissal of a teacher in terms of Section 3, of the Public Schools (Scotland) Teachers' Act, 1882, a petition shall be presented to the Department by the said teacher praying for an enquiry into the reasons for the dismissal, the Department shall make such enquiry as they see fit, and if as the result of such enquiry they are of opinion that the dismissal is not reasonably justifiable, they shall communicate such enquiry to the school board with a view to reconsideration of the resolution, and in the event of the school board not departing from the resolution within six weeks thereafter, they may attach to the resolution the condition that the school board shall pay to the teacher such sum not exceeding one year's salary as the Department may determine; and any sum so determined may be recovered by the teacher as a debt from the school board; provided that nothing herein contained shall affect the power of a school board summarily to suspend any teacher from the performance of his duties."

And I beg to ask whether legislation on these lines is not possible in Madras. At any rate may I not entreat those whom it may concern to take up this question and consider if after all it falls so hopelessly beyond the field of "practical politics."

It is a pleasing coincidence—and perhaps augurs well for our cause—that at this very moment, Earl Beauchamp in England is progressing with his Endowed Schools (Masters) Bill in the House of Commons. It is said to have passed the Committee stage and will, it is hoped, soon receive the royal assent. This Bill does not proceed on the lines of the Scottish reform, and in fact deals only with the amelioration of assistant-masters. These, in the endowed schools of England, have hitherto been absolutely under the authority of the headmaster, who could appoint and dismiss them at pleasure. But Lord Beauchamp's Bill will do away with this disability and place the assistant-master under the governing body of the school, which shall not dismiss him except after at least two months' notice. This Bill is only the first instalment of the necessary reform in this direction; and, much as the assistant-masters wished to provide in the Bill for a court of appeal, they feared the jump a trifle too high, and were wisely content to have the measure in its present shape sanctioned rather than wreck the whole Bill on impracticable ambitions. But let us hope that our English brethren of the profession may soon have the good luck of their Scottish neighbours, and secure the very privilege, let us hope again, which our Government may find it fit to confer on us in its own good time.

C. T. PARTHASARATHI MUDALIYAR.

SCIENCE FOR THE INTERMEDIATE EXAMINATION.

THE question has often been asked whether the teaching of Science for the Intermediate Examination requires the services of two separate graduates, (1) a Chemistry man to teach chemistry, (2) a Physics man to teach physics. As there seems to prevail some misapprehension in certain quarters regarding this matter, it would not, I think, be inappropriate, at this moment, to examine at some length how far it can be justified in the light of the curriculum of studies prescribed by the University for the Science groups of the Intermediate Examination. For my part, the opinion held by some that a Physics graduate can teach physics only and a Chemistry graduate chemistry only is, as I shall show presently, as unwarranted as it is unfounded.

First let us examine the syllabus in Chemistry prescribed for the Intermediate course and see whether the subjects comprised in the syllabus are such as fall within the purview of a student taking up Advanced Physics for his B.A.

The Syllabus:—

(a) The laws of chemical combination by weight and by volume; atomic theory, symbols and their use; equivalents; atomic weights; molecular weights; Avogadro's hypothesis and relation of gas density to molecular weight; chemical equations and calculations; nomenclature.

(b) A general knowledge of the properties of the elements and of the chief types of compounds with a view to their classification. The periodic system.

(c) The ordinary methods of preparation, and the chief properties of the following

elements and their principal compounds:—hydrogen, oxygen, the halogens, sulphur, nitrogen, phosphorus, arsenic, boron, carbon, and silicon.

(d) Chief sources, preparation and properties of the common metals, viz., sodium, potassium, (ammonium), silver, mercury, lead, copper, zinc, magnesium, calcium, barium, aluminium, iron, tin; and the preparation and properties of their oxides, hydroxides, and their salts with the more common negative radicles.

(e) The preparation, properties and relations to one another of the following compounds of carbon:—methane and ethane; methyl and ethyl alcohols; ethyl ether; formal-dehyde and acetal-dehyde; formic and acetic acid; cyanogen, hydrocyanic acid and metallic cyanides.

For convenience sake, I have divided the whole syllabus into 5 sub-divisions (a), (b), (c), (d) and (e). The first part (a) comprises the laws of chemical combination by weight and by volume, atomic theory; symbols and their use; atomic weights; equivalents; molecular weights; chemical equations and calculations. These are already introduced in the teaching of Chemistry in the Matriculation class of well-equipped High schools and second-grade colleges. They are afterwards only taught in detail in the Chemistry class for Branch II-A and II-B. In some High schools and 2nd grade colleges Avogadro's hypothesis also is introduced in the teaching of Science in the Matriculation class. In the Chemistry class for Branch II-A students are taught all the above mentioned general principles in detail, a fact which could be proved by a reference to the syllabus in Chemistry for Branch II-A and the B.A. examination papers in Chemistry for

Branch II-A. These are studied from Tilden's Chemical Philosophy, Newth's Chemistry, Bloxam's Chemistry, Remsen's Chemistry, Ostwald's Chemistry, &c., &c., books read now by Physics students for chemistry.

In sub-division (b), we find the periodic classification which every student taking up Branch II-A has to study. This is fully explained in the books mentioned above.

Passing on to sub-division (c), it would be found that the elements oxygen, hydrogen, chlorine, sulphur, nitrogen, phosphorus, silicon and carbon are now being taught theoretically and practically in the High school classes (Forms VIth, Vth, IVth) and these along with iodine, bromine, fluorine, boron, arsenic and the metals comprised in sub-division (d) have to be studied in detail by every advanced Physics student.

Coming to the last sub-division (e) I find that every student who takes optional groups I and II for the Intermediate course has to study, only the preparation, properties and relations to one another of the following compounds of carbon:—Methane and ethane; methyl and ethyl alcohols; ethyl ether; formal dehyde and acetal-dehyde; formic and acetic acid; cyanogen, hydrocyanic acid and metallic cyanides.

This clearly shows that every student taking up groups I or II for the intermediate course has to study only very simple compounds most of which every student taking up Branch II-A has to study.

From this it will be seen that the whole of the syllabus above set forth with the exception of formal-dehyde, acetal-dehyde, methyl and ethyl alcohols and ethyl ether, which I think could be studied by any Physics student in about an hour, has been studied in detail by a Physics graduate for his B.A. Examination

and therefore can be taught by him without any difficulty to the Intermediate classes.

Let us next examine the syllabus in Physics—

*Dynamics:—*The units of length and time; displacement, speed, velocity and acceleration of a particle moving in a straight line; Newton's laws of motion; the units of mass and force; motion of a particle in a straight line under the action of a force in that line and in a vertical plane under the action of gravity; energy, work, power and their units; simple illustrations of the conservation of energy.

Conditions of equilibrium of a body under three concurrent forces (the parallelogram law), and under parallel forces. Centre of gravity; simple machines.

The motion of a simple pendulum; determination of g (only experimental proofs are required in these cases).

*Hydrostatics:—*Pressure at a point in a fluid; definition and illustrations; transmissibility of pressure; evaluation of pressure at a point in a heavy fluid at rest, its uniformity in all directions; resultant thrust in simple cases; the principle of Archimedes; floating bodies, hydrometers; applications to practical determination of density and specific gravity; the pressure of a gas and its determination; the barometer; Boyle's law; air pumps and water pumps.

*Heat:—*Temperature and its measurement; the construction and graduation of thermometers; the thermal expansion of solids, liquids and gases and their accurate determination; the air thermometer; heat as a quantity; the unit of heat, specific heat and the more direct methods of calorimetry; laws of

fusion, evaporation and ebullition; latent heat; vapour pressure and how it is measured; conduction and convection of heat; thermal conductivity; radiation; absorption and reflection; law of cooling; the dynamical equivalent of heat; the conservation of energy.

Light.—The experimental facts and laws of transmission, reflection and refraction of light; simple geometrical deductions from these, applicable to small direct pencils incident on plane and spherical surfaces; applications to the lens, telescope, microscope; the dispersion of light; the spectroscope; radiation and absorption spectra; total reflection; determination of refractive indices.

Magnetism.—Properties of magnets; poles; laws of magnetic force; unit poles; lines of force; uniform magnetic fields and experimental methods of comparing them; the earth's magnetic field; the compass; magnetic induction; the magnetic properties of iron and steel.

Electricity.—Electrified bodies; electrical quantity; conductors and insulators; distribution of electricity on conductors; induction; laws of force between quantities of electricity; lines of electrostatic force; the electric field; electric force and electric potential; difference of potential.

The more common forms of voltaic cells and the actions that go on in the cells while producing a current. The action of currents on magnets; galvanometers depending on such action including suspended coil type; metallic conductors and electrolytes; laws of electrolysis; electro-motive force; Ohm's law; resistance and the simpler methods of determining it; distribution of energy in circuit by current and heating effects; electro-magnets.

Sound.—The production and propagation of sound; the velocity of sound in air, its determination; nature of wave motion and sound waves; frequency of vibration; pitch; amplitude of vibration; loudness; laws of vibration of strings and air columns; the reflection of sounds; echoes.

A glance at the above course of studies in Physics prescribed by the University must convince every Science graduate that the subjects dealt with in the above syllabus has to be studied in detail by him for his B.A. Examination and therefore could be taught successfully by him whether his optional branch for the B.A. be II-A (Advanced Physics) or II-B (Advanced Chemistry).

Some are of opinion that, because, in groups I and II, Physics and Chemistry are given under sub-headings (b) and (c) they are intended to be taught by separate men. The true reason for this division, in my humble opinion, is not so much to necessitate the employment of two separate graduates one in Physics and another in Chemistry for teaching the two subjects, as to prevent students from passing the Intermediate Examination by studying either of the two subjects—Physics or Chemistry.

Further the two subjects Physics and Chemistry, being so allied to each other, I wonder how one could study Physics well without the help of Chemistry and *vice versa*.

Such being the true nature of the case, I hold strongly that a Physics graduate could efficiently teach both Physics and Chemistry for the *Intermediate Examination*—an opinion held also by two responsible members of the Board of Studies in Science of the Madras University.

In this connection I may be permitted to observe that, in teaching Physics for the

Intermediate course constant references will have to be made to chemical principles and facts and *vice versa*, therefore it would be more advantageous to students that the two subjects are taught by one and the same lecturer, whether he be a Physics graduate or a Chemistry graduate.

Again, for the University examinations hitherto held, we are familiar with a *Physical Science Board* alone presided over by one Chairman who may be a Physics professor or a Chemistry professor. If the theory of "Chemistry for the Intermediate examination by Chemistry graduates alone and Physics by Physics graduates alone" were to be accepted as true, we should have had for the University two separate and independent Boards.

For these reasons, I think, the Madras University has not drawn any distinction between a Physics graduate and a Chemistry graduate as regards teaching the two subjects, *viz*: Physics and Chemistry for the Intermediate examination and that the opinion, entertained in certain quarters, that Physics men cannot teach Chemistry and *vice versa*, has no justification whatever. If however the views set forth by me in the above paragraphs be not all correct, I hope, the University authorities would institute a series of lectures in Science for the benefit of lecturers in second grade colleges and put them in the right track as regards the teaching of both the subjects Physics and Chemistry, as they did in the case of *Mathematics* last year and the year before last.

SCIENCE.

NATURE STUDY IN PRIMARY SCHOOLS *

By MR. C. R. NARAYAN RAO, M.A., L.T.

This branch of study is one of recent introduction in our Elementary and Primary schools and cannot be spoken of as having had a past in Indian Pedagogy. The causes for the omission of this study in our old *tols* and *patasalas* are not far to seek, and must be obvious to every one who is acquainted with the history and development of education in this country. The results of such a system of one-sided education which too exclusively occupied the mind, and left the eye and the hand almost untrained have been most ruinous in the utter incapacity of the Indian youth to turn his hand to any business other than the "labours of the desk," or to adapt himself to the requirements of an intensely utilitarian age. The importance and utility of Nature Study were recognised by the Germans long ago and it was taught under the name of *Earth kunde*, and the Americans, proverbial for their practicality, teach the subject in relation to agriculture. The Americans advocate that all education should take into account the study of man's immediate surroundings and his general environment and give to Nature Study, therefore, a not inconspicuous place in every scheme of national education. Those, however, who restrict the limits of education to reading, writing and Arithmetic, with or without History and Geography, would very easily, though erroneously, exclude all practical studies. But no one in the present day will subscribe to this latter view.

India is pre-eminently an agricultural country and it must be a most salutary arrangement that Nature Study and agriculture should go hand in hand in all rural schools. The subject should include a general knowledge of animals, plants, rocks and soils of that part of the district in which the schools are placed. The object of

* An extract of a paper read before a meeting of the Coimbatore Teachers' Association, held recently.

ing. The existing staff of teachers of both Primary and Secondary schools can be put in a position to handle their classes in Nature Study by organising for their benefit a course of lectures followed by demonstrations in the elements of Botany, Zoology, Physics, Chemistry and Agriculture. Such a course may be organised by the Department or by the teachers themselves. If in a district there are, let us suppose, from between 350 to 400 teachers in all, they may be taken in batches of one hundred each and separate holidays may be set apart for them: the whole course covering a period of three months. This will no doubt entail on the poor village school-master plenty of worry and trouble—both physical and pecuniary—in having to move up and down to attend the lectures; but it will be remembered that there are few things worth possessing in the world, which can not be had through exertion and trouble. It will be surely a source of comfort if after attending all the lectures, the teachers' pains are substantially recognised by the inspecting authorities who may grant them certificates in token of their new qualification. As regards the future generation of teachers, the question is easy. In all Normal institutions where teachers are qualifying for the secondary certificate and even in the Training colleges, the pupil teachers should be made to take a course in some of the branches of Natural Science, along with their more formal pedagogic studies. A small laboratory with simple apparatus and one or two competent lecturers who are imbued with the spirit of a naturalist will answer the purpose.

It is wrong to suppose that Nature Study is essential only to the Primary school-master whose business is with the rural children, and that a Secondary school teacher can well afford to do without it. In the first place Natural Science teems with interesting and puzzling problems which can engage the attention of all observant men and any one of which may

become their, and most of all a teacher's, hobby which will save him from prematurely acquiring the absurdly serious and formal look of an older race of pedagogues. One of the many and varied duties of the teacher, if he is conscientiously discharging his function, will be to find suitable hobbies for his children and teach how to ride them. In the second place the literature in any language can never be fully appreciated by those who are blind to the beauties of Nature, for the greatest writers of both prose and poetry have been and are the closest students of Nature and their works are full of allusions to the country side. It is certainly important that the teacher should have a personal knowledge of similar things in his own district at least, to be able to interpret these references. Again the intimate connection between the study of Geography and Natural Science will be perceived by all and it will be separately treated later on. It would appear, therefore, the question being viewed from all standpoints, that a knowledge of Natural Science is almost a *sine qua non* to the teacher.

I have yet to mention certain other points. No teacher can be regarded as an ideal master of Nature Study, unless he is imbued with a deep and genuine love of the country side and this is a characteristic which cannot be acquired in the laboratory but by intimate and frequent contact with Nature herself. The teacher should above all suppress all tendencies to affectation for obtrusiveness is not a sign of healthy love of Nature.

We shall go back a little and take up the lines of instruction. The study should be observational and experimental. If so, it will be found that Nature Study is profitless without undertaking frequent excursions. Again small natural history societies may be formed, and museums, aquaria and terraria, models and pictures may be got up with a small outlay. All these are important adjuncts to teaching and the teacher should repeatedly refer his pupils to the object

in these institutions and make a free use of the models and diagrams on all proper occasions.

We shall take them one by one. If Nature Study is going to be of any use at all, out-door work is not only desirable but absolutely essential. As often as may be found feasible, the teacher should conduct his class, provided it is not very large, to a short outing under his supervision. The excursions need not take place every week nor every month; but it must be quite practicable for the teacher to have at least four of them every year, one in each season. On each occasion the class will cover the same part of the country; the object of this being to enable the scholars to note the changing aspects of Nature. If more excursions than four can be arranged for, other places may be chosen and the teacher shall always fix upon new places which afford striking and remarkable features for observation. The ground to be traversed need not be too extensive so as to fatigue the children, and it should be sufficiently varied in character. It shall have been previously surveyed by the teacher who will also determine what should and what should not engage the attention of the class. The teacher may furnish himself with a note book and a pencil, a pocket lens, a penknife and a pair of forceps and see that the pupils are similarly provided. A few deal-wood boxes, bottles, tins and collecting bags should be carried by the pupils or if the institution can afford, by a servant, for the proper carrying of specimens. Every now and then, by collecting the pupils round him, the teacher will satisfy himself that they are studying the proper things and making all necessary entries and sketches which may be afterwards useful.

Each excursion should have some definite aim which should be steadily kept in view by the teacher who will in a general way make the class acquainted with the purpose of the excursion, though it may be unwise to hand each pupil a printed schedule containing all the details. At the same time the teacher should guard that the

excursions do not take a stereotyped character, and he should give credit to any actual and original observation that the children may happily make. It is no doubt a great and difficult thing, and the teacher has every reason to congratulate himself, if he succeeds in it, that the children are taught to see things for themselves and by themselves, since this power is a rare commodity even in adults and one most difficult to develop. Indeed the excursion fails of its purpose, if in some measure at least, it has not stimulated the power of children's original observation. A too rigid adherence to an excursion programme tends to check these tendencies to original observation; whilst on the other hand an excursion without a definite aim may become unprofitable and too chatty. A wise teacher will hit upon a happy mean. Let us take a hypothetical excursion and see what the teacher and the pupils may be expected to do. The study of the life history of the common tank frog will afford an excellent object for nature excursion in November or December for pupils of about 12 years of age. A few adult frogs may be caught and examined by the pupils. The teacher will have abundant opportunities of calling the children's attention to the colour, markings and the external differences of these animals. An attempt may be made at classifying them, the basis of classification at this stage being colour and other external character. The next stage in the study would be to note the external anatomy and the adaptability of the different structures to the amphibian life. For instance the webbed feet are necessary for locomotion in water. The teacher will ask the pupils to cite other examples,—duck's feet. The pupils may then be directed to note the quantity of webbing in the feet of the different frogs and toads that are caught in the tank; and the variations should be accounted for by the pupils. Again the differences in the size and development of the hind and fore limbs should be noted and the pupils should learn that the bigger and more powerful

hind limbs enable the possessors to take long leaps on the ground—the characteristic motion of the frog on land. Then the frogs may be set at liberty. The third stage in the study would be the determination of the different species by their voices. Each frog cries in a particular manner which is characteristic of itself and from which others may be easily distinguished. As the children watch the frogs croak, another structure is revealed, the gular sacs which may be two or one, according as the pupils are watching the green frog or the toad. The arrangement and function of these bags should be understood by the pupils. They may incidentally notice the mouth which is out of all proportion to the size of the body and the enormous gape of which gives the animal the power to swallow incredibly big objects. All this will be the study of the adult frog.

We shall next suppose that all the frogs are depositing the spawn. Here again the teacher should invite the attention of the pupils to the manner in which the eggs are laid. This difference affords another basis of classification. A few frogs deposit the eggs in large globular masses, the toads deposit them in double strings which they twine round the weeds and grasses, the chunam frog builds a nest, while the smaller varieties lay them in circular patches on the water. The pupils should be asked to collect the spawn of all the frogs which should be kept in separate bottles containing water and they may also take a few of the tadpoles representing all the stages of growth. A further study of the life-history may be carried on in the class room and partly also outside it: since it will be extremely profitable for the students to compare the periods of growth in nature and in the laboratory. It must be evident from the above description of a purely hypothetical case, that the excursions, instead of being the occasions for cramming the children's mind with all manner of facts, may be turned into educational instruments in affording them facilities to solve

the problems suggested by these facts. For instance a close and intelligent watching of the colour of the green frog must lead the observers, after repeated observations, to infer that the possession of that colour is useful for the animal in its struggle for existence, an animal whom the Bounteous Nature has endowed with no other weapons.

A second excursion undertaken in some other season of the year, say spring, may be concerned with the determination of the common trees by their barks, leaves and buds; the colour, form and markings of seeds, the shape and arrangement of leaves and flowers and so forth. In order that the teacher may conduct the excursion with any measure of success, he must possess a deep and abiding interest in, and a varied knowledge of out-door life and of the intricacies and peculiarities of the topography of his own district. Whilst the ostensible object of the excursion may be the study of frogs or plants and trees, it is surely possible that interesting things may be noticed, which have little or nothing to do with the main object of the excursion. Perhaps a hare or a fox may be seen crossing the field: perhaps the pupils' attention may be directed to the mink dogging the heels of the cattle in the field; or a snake may glide in the adjoining bush, or crows may be seen closely following the ploughman's share as it cleaves a furrow in the field, or a peacock on the tree may be heard screaming. It should certainly be competent for the teacher to decide how far these questions will receive the pupils' attention and enquiry. Anything that furnishes a rare opportunity for original observation should not be missed, but should be turned to good account by the teacher and his class without allowing it to interfere unduly with the particular object for which the excursion was undertaken. It seems superfluous to point out that the children shall not indulge in any acts of cruelty; for instance the hare when seen should not be stoned, the tadpole should not be crushed or kept too

long out of water, nor the flowers ruthlessly torn off. The teacher as well as his class should bear in mind the old homely saying "orchis pluck, orchis kill; orchis cut, orchis still." They should always use a knife or scissors in cutting the flowers, restore the aquatic animals to the water in the bottles and put the land forms in the mud or earth carried in the dealwood boxes. Some animals may, no doubt, admit of being borne to the class room for purposes of further observation and on all such occasions they should be put away in their natural places in the aquaria or terraria as the case may be without unnecessary delay. Again it is important that not more than one animal is put in the same collecting bag, since most animals are carnivorous.

Two valuable things in connection with the nature excursions have yet to be mentioned. It is important that they are correlated with the class studies such as Composition, English and Geography lessons. A description of the trip should be written by each pupil in his vernacular. The pupils may consult and freely use their pocket books in which they have entered notes during the excursion. If they had made any sketches, they may enlarge them and embody these in their written composition to illustrate their statements, or for purposes of verification they may be allowed to re-examine the specimens. It is not in the nature of things to expect quite good productions from these children of twelve or thirteen, but later on with considerable practice, these very pupils, whose first attempts might have been rough and crude, may be enabled to write out quite creditable essays. What is of great importance in all these things is that the children should be encouraged to express in their own words, however simple, what they have seen and learnt. The teacher can afford to ignore at first all literary faults, but will aim at a true exposition of their ideas of things. If the country children are learning the rudiments of English, their English texts—Nature readers—will treat about the objects, for an observation of which

the excursion was made and the Geography lessons will be supplemented by the large scale maps of the country and its surroundings. There should be two such maps—better if they are carefully prepared as a result of the teachers' experience and survey,—on one of which the common routes of the excursions should be marked and other interesting features that may be met with during the excursion, such as a historic scene, a mica quarry, a river, a hill, a tank, a mill, a hillock or a wood. The other map will supplement parts of the lessons in geography of the district and the village.

In order to serve as a guide, it is perhaps better that the teacher prepares a list of objects that are to be specially looked for during the excursion and acquaints the pupils with them before the commencement. Take any month of the year, the teacher can prepare a list of the following; the landscape, weather, temperature, rain, the operations in the field, sowing, weeding, transplanting, ploughing, hoeing, manuring, sub-soil grubbing and so forth, the insects, flowers and fruits, birds, amphibians and reptiles; study of foods, especially rice and wheat; astronomy of the principal stars and the position of the sun, examination of the various kinds of wood—beautiful, durable, hard, strong, light, etc. Other things will suggest themselves to the teacher; and the lists must be different in different provinces and for different grades of pupils. They may be revised and extended from year to year.

Before I consider the other aids and accessories, let me say a few words on Natural History Societies. Differing greatly from the Debating Societies, they are institutions which can be formed for the benefit of very young children, whereat both the teachers and pupils co-operate and produce at their meetings specimens which have been the objects of special study and observation and make a few very simple remarks in the vernaculars. The remarks should be the result of notes which the pupils have been taking down in their books from day to day.

Every school which professes to teach Nature

Study should maintain a small garden, and instructions in gardening should form a definite portion in the scheme of studies. The pupils should know the nature of different soils and practically learn that particular plants thrive and flourish in particular kinds of soils. They should also have a practical knowledge of the value of manures, the methods of their preserving and application, the use of the different implements of agriculture, the propagation of plants in nature and under cultivation, the development of plants in relation to the environment and how to plant the seeds, the different methods of sowing them and transplanting the young plants and finally harvesting and garnering. The teacher will decide whether horticulture and agriculture should or should not be taught simultaneously.

It will be found that certain portions of the study are best carried on in the class room just as others may be, with great advantage, studied in the field. For instance the mature stages of peas and beans and other annuals should be studied from specimens which have been raised in the gardens, though the earlier stages of these plants are best observed in plants raised in the class-room in boxes of damp saw dust. Certain organs and their functions such as root-hairs are best studied in this latter way. Bulbs, tubers and tap-roots and other underground organs may also be studied similarly. The so-called laboratory of these village schools need not be an expensive or a showy affair.

Another equally important adjunct to Nature Study in the lower classes is a properly equipped aquaria. Most people have exaggerated ideas about their cost which need not go beyond a few rupees. Large earthenware chatties and a few large glass boxes which the local tinker can make, will answer the purpose. These aquaria should be well stocked with water plants, snails and a few small fishes. Each year the pupils may watch the development of the frog, the emergence of some perfect fly from the aquatic pupa. These will afford never-failing interest to the pupils. The aquatic plants should be fixed to the bottom by means of sand and stones and

if suitable plants and animals are chosen, the water need not be repeatedly changed.

A terrarium is also a most useful and desirable thing and though the name is terrifying enough, it need not be a costly business. A few deal-wood boxes, wooden and wire cages and a small sheltered spot in the garden will not unduly strain the purse of the authorities. Just as the aquarium is a piece of apparatus for studying aquatic life, the terrarium is a device for observing terrestrial life such as rabbits, frogs, snakes, lizards, squirrels, white rats, guinea pigs, and hedge hogs. Some of these will become school-pets and a wise teacher will have no difficulty in deputing his most trustworthy scholars to tend them; and the work which the keeping of pets entails is well remunerated by the unfailing interest and gratification.

Diverse opinions exist regarding the nature and utility of school museums, no doubt very important adjuncts to Nature Study, and recently they have become permanent institutions. Such of the schools as can not boast of a museum, may be induced to pay a visit to the public museums. An average public museum is not, however, the place most fitted for serious work in Nature Study: for the things there have been arranged not with a view to help the children but in accordance with higher principles of classification, which must be foreign to the child mind. The essence of all Nature Study, it must be borne in mind, is the work done by the pupils and not work done for them by others, whatever may be their intentions. It should certainly be possible for the children to make in the class-room whatever in the museum is helpful to their studies. It is a great mistake to suppose that the museum is a repository where all curios and other odds and ends are stowed away. In most cases the museums are started by getting together a number of shells, birds' eggs and stuffed animals. After the lapse of some little time, it is invariably found the such museums have not answered the expectations of their founders, and they soon cease to interest the pupils and teachers. The mistake consists in collecting all and sundry without regard to their bearing on the actual

work of the class. The proper way to get up a museum would be to stimulate the pupils' love of doing and it should be concerned only with those objects which are in some way or other related to the life of children, at school, at home or out of doors. For instance when the pupils are studying trees or some animal, let them retain some specimens; let one retain a particular portion of one tree, say its bark; another of a different one and so on from the common accessible trees in the compound. If the pupils are studying the insects, let them gather the different leaves on which they feed and deposit the eggs, the different caterpillars, and the pupæ and in a general way make small collection of butterflies and beetles. Similarly with regard to rocks and soils, the teacher will see that the specimens illustrate the particular points, such as twigs in various stages of growth, tadpoles, and caterpillars completing the cycle of development. If necessary let the various points be neatly exposed and mounted and preserved in proper places. Let these things be accessible at all times of the lessons. Further the object being made by the pupils themselves will be a constant source of pride to them and emulation to their comrades. Of course the specimens will get dirty and untidy, but also by that time these specimens will not be wanted by the class. They must be replaced by the succeeding class of pupils working in a similar way. The school museum is therefore in one sense a temporary affair: and in another it is a permanent affair, for it is constant source of employment, instruction and interest for those whom it is intended to benefit.

It is necessary and profitable that this interest should be translated into some tangible form. Pupils of the higher grade, say the third and fourth standards, may be encouraged to keep diaries in which to enter natural phenomena as they occur. The teacher should maintain a class diary in which a summary of the events after verification should be entered. This diary may be looked after by the teacher in person, or by one of his most trusted pupils who after a little training will do this work most satisfactorily.

The diary of one year may be compared with that of the previous years and any differences in the order of events should be noted, and accounted for. A few entries such as the pupils may make would be as follows:

May, 1st. Day cloudy and oppressive; night clear; mackerel-sky; screech-owls screaming about.

5th. Crows noisy and unusually active; two king-fishers in the school pond.

10th. Plenty of good mangoes; melons and cucumbers cheap; high breeze throughout the day; maximum temperature 100° F.

15th. Woodpeckers on the trees; blood-sucker laid 10 eggs in a small burrow in the ground; hail stones accompanied by rapid thaw; great bear visible at eight in the night.

20th. Lunar eclipse; crows build nests; frogs noisy in the compound after a heavy fall of rain.

Some such memorandum may be produced by one of the pupils and another equally interesting by a different pupil. It is the teacher's business to carefully examine and verify and then incorporate in the class diary.

Finally let us take the other aids and accessories such as models and diagrams. The object of these is to make clear the form, structure, and function of the objects studied. Their value is considerably enhanced if the pupils themselves prepare and fashion the models: for it implies a more careful examination of the objects from which the diagram is sketched. Excellent models may be made by the pupils when they do clay work in the class room and tolerable diagrams can be made out of the drawings done by the pupils in the drawing classes. The productions may be crude but they have a greater educational value than the made and more costly diagrams and models. The models may represent sections and the parts differently coloured.

Most children, not even the Hindu children exempted, have an instinct to treasure up curious things and the teacher should encourage this collecting instinct. It is unnecessary to say that

the children do not become indiscriminate and bring in a heterogeneous mass of odds and ends which serve no useful purpose. Trees illustrating seasonal developments, specimens illustrating the dispersal of fruits and seeds by the winds, twigs of plants with thorns and prickles, different kinds of leaves, insects with specimens of crops on which they feed would be excellent objects for the children to collect and arrange. All collections should be accompanied by written verbal explanations and by illustrative sketches. The aim should be not to have a very large collection, but one which the collectors understand and as far as possible representative of the district. In choosing lessons in Nature Study, preference should be given to those subjects which lend themselves to the solving of easy problems by careful observation and simple experiments. A highly suitable series of lessons for the earlier years may be formed in seeds and the conditions necessary to their germination. A tamarind seed may be taken first and compared with the structure and development of other seeds, say the country bean and the mustard. The lessons in their various stages must necessarily cover a long period and it would be unwise to suspend, during this period, other valuable studies which may be done in a less detailed form. In the higher classes, I mean the secondary forms, where at present no provision is made for Nature Study, the lessons should be of an advanced character and should be connected with Physics and Chemistry. This advanced study should consist in the nature of the observation, the power of expression by oral and written descriptions, by drawing and modelling and in the ability to deduce general conclusions.

The paper is already very long and I do not propose to give a sketch of the lessons or syllabuses of study in different portions for different classes.

SCHOOL FINAL EXAMINATION.

G. O. No. 510, Educational, dated 9-7-08.

REPORT OF THE COMMITTEE APPOINTED TO CONSIDER THE SCHEME FOR THE INSTITUTION OF A SCHOOL FINAL EXAMINATION.

In accordance with the request of His Excellency the Governor-in-Council contained in the Order No. 212, Educational, dated 20th March, 1908, we have carefully considered the scheme for the institution of a School Final Examination therein published and have the honour to submit a report upon the whole question.

2. We assembled at Ootacamund on the 19th May 1908 and met every day with the exception of the intervening Sunday, from the 19th to the 29th of that month and then adjourned until the 2nd June to allow of the preparation of a draft report. Certain matters of detail were referred to Sub-committees for preliminary consideration; but every aspect of the question was exhaustively discussed in full Committee with the result that the following report represents an unanimous opinion.

3. The unsatisfactory nature of the present arrangement whereby practically every secondary school is almost entirely concerned with the preparation of candidates for a University Matriculation examination seems to us to admit of no doubt whatever. It is also perfectly well known that, as observed by the Government, the Upper Secondary examination has, from the first, failed to achieve the objects which it was intended to secure.

4. We are convinced that there is a crying need for improvement in the matter of secondary education; but we are equally certain that unless some greater departure from the present system than that proposed in the scheme before us is made, the practical result will be to substitute one examination for another without any influence for good upon at any rate the majority of schools.

5. Assuming that the University agree to accept a pass in the proposed School Final examination in lieu of one at the Matriculation with the probable proviso that certain subjects have been selected, practically every school will put its pupils through such a course, the School Final examination with the privileges attached to it by the Government will replace the Matriculation examination in the case of pupils to which it is open, there will be the same small list of "passes" and large list of "failures" as heretofore; in short, the net result from an educational point of view will be practically nil.

6. With these considerations before us we have formulated a scheme which involves much more radical changes than contemplated in the notification but which, we hope, will be welcomed by all concerned and be considered by His Excellency the Governor-in-Council as worthy of trial.

7. We approve of the decision to replace the Matriculation examination as an entrance test for Government service by some guarantee that the applicant has gone through a definite course of study in a recognised secondary school; and that during the period which he has spent at such a school he has conducted himself in a satisfactory manner.

8. We are, however, of opinion that any mere examination at the close of his school-career, even although such an examination may admit of a much wider range of studies than the present Matriculation examination, will not attain the object in view.

9. The very term "School Final Examination" seems to us to be open to objection and we propose to use the term "School Leaving Certificate" for a certificate that will be granted to a pupil who proposes to leave school. This certificate will present some record of the latter part, at any rate, of the pupil's school career in regard to progress, attainments, character and conduct. It will also show the result of a public examination.

10. It should be open to the recipient of this certificate to return to school with a view to improve his attainments either in depth or extent and thus secure an endorsement upon the certificate that he has so done.

11. It will be for the Government, the University or other agency to determine the intrinsic value of each certificate; but the latter should be of such a nature as to show exactly what subjects any candidate has studied and to discriminate fairly between one candidate and another as to the benefit he has received from a school course.

12. Bearing in mind that one of the main objects of any change in the present system is to prevent a public examination from dominating the school work, we think that the ideal system would be that any examination to which the pupils may be submitted as a condition of the award of the certificate should be held *in situ* in each school, that the examination should be largely oral in character and should be conducted by the staff in collaboration with the Inspector and a member of the Central Board.

13. We have carefully considered the feasibility of such local examinations and have some

to the conclusion that the difficulties are prohibitive.

14. Such a method of determining the nature of the certificate would undoubtedly give the work done in the school its due prominence; but having been compelled to abandon this method we propose to combine in the certificate the results of a public examination with the opinion of the headmaster and staff checked by the Inspector.

15. We have not overlooked the fact that different headmasters may set very different standards and that there may even be cases of unfair treatment of individual pupils. The latter will, we hope, be few in number and they will in all probability come to light. To ensure a reasonable uniformity of standard the opinion of the headmaster will be expressed by means of marks and these marks will be "moderated" by the marks awarded at the public examination. In this way it will be possible to place the pupils of different schools upon a common footing and at the same time to attach great weight to the opinion of the school staff as to the relative merits of the pupils in any one school.

16. Owing to the existence of a number of secondary schools having the Third Form as the highest and the possibility also of transfer of promising pupils from elementary schools at that stage, it seems most suitable that the certificate should take no account of the school course below the Fourth Form; on the other hand there seems to be no reason against the commencement of the record at that stage. We propose that every pupil on entering a Fourth Form should be provided with a blank certificate to be kept in the custody of the school so long as he remains there.

17. The question as to whether any subjects should be obligatory at the final examination presents much difficulty. In theory if the examination is not to dominate the school course no subject should be compulsory. In practice, however, among the subjects which will and should be studied in every secondary school there are some in which the attainment of a definite standard by all pupils may reasonably be tested at a public examination. It seems unnecessary to defend the inclusion among these of Arithmetic and, so far as boys are concerned at any rate, of English. The question of the inclusion of a modern Indian language gave rise to much discussion; but we finally agreed that a working knowledge of a vernacular should be insisted upon.

Hand-writing (English).

Do. (Vernacular).

Physical Training and games.

Manual Training.

Number of school days.

Number of attendances.

Percentage of attendances.

General remarks on special aptitudes, character and conduct.

Date _____

Second Term—

Pages 4, 6, 8, 10 and 12.

Headmaster.

Same as in first term certificate except:—

	1st Term.	2nd Term.	For the year.
Number of school days.			
Number of attendances.			(2)
Percentage of attendances.	(1)	(1)	

(1) Minimum admissible 60.

(2) Minimum admissible 120.

Page 13.

Combined result of school course and Public examination.
Name of pupil (in full) _____

Subjects.	Percentage of marks.			
	At school.		III. At the Public examination.	Final result.
	I Given by headmaster.	II Moderated by the Board.		
Arithmetic				
English				
Vernacular (... ..)				
Geography				
Science				
Drawing				
Domestic Economy				
Needlework				
(Additional subjects)				

Remarks by the Board when necessary upon the general character of the candidate's work
and hand-writing at the examination.

(Signature.)

Secretary to the Board.

Pages 14 and 15.

Combined result of Supplementary School course and examination.

Name of pupil (in full) _____

Subjects.	Percentage of marks.			
	At school		III At the Public Examination,	Final result.
	I Given by headmaster.	II Moderated by the Board.		
Arithmetic 				
English 				
Vernacular () 				
(Additional subjects) 				

Remarks by the Board—

(Signature.)

Secretary to the Board.

Date _____

33. As it rests with the headmaster in the first place to judge of the merits of the pupil's school work, his permission to appear for the public examination seems necessary; we therefore propose that no pupil may appear unless his certificate is sent in by the headmaster.

34. So long as he remains at school, a pupil should be able to retrieve his position in regard to industry or regularity. In moderating school marks we therefore propose that no year should be taken into account if the pupil was not promoted at the end of it on account of insufficient progress or attendances. The certificate will, however, always show his history in regard to these as well as other matters.

35. We are agreed that transfers from one school to another are an evil, more particularly so in the later years of school life; but local conditions render it almost necessary to make some provision for them. We consider, however, that each term must be kept in one and the same school, i.e., that no term-certificate can be accepted unless gained at one school.

36. In every case the Board will complete and hand over the certificate to the headmaster who sent it in for transmission to the owner. The certificates sent to each headmaster will be accompanied, if the Board think it necessary, by remarks upon the work of the school.

37. A certificate-holder, who wishes to improve the quality of his certificate, must rejoin some recognized school for at least two terms, and, if the headmaster of that school considers that his further progress warrants it, he will be permitted to re-appear at the public examination in any subject or subjects in which he previously appeared. The percentage of marks then obtained together with the additional school marks will be entered in the certificate.

38. At the same time or without re-appearing in any subject a certificate-holder may appear in any further subject or subjects, provided that he has studied them for two or more terms in a school recognized as providing suitable instruction in them, and has, in the opinion of the headmaster, made sufficient progress. The per-

centage of marks obtained together with the school marks will be entered in the certificate.

39. The "private candidate" finds, of course, no place in our scheme; a school-leaving certificate cannot be granted to any one who has not been at school. The University may always examine such a candidate as to his fitness to enter a college or may depute the college to do so. The Government or other agency may value the evidence produced as to his having received suitable instruction.

40. The dates of the public examination must be so fixed as to suit the schools, and if the school year remains as it is at present, December would appear to be the most suitable month.

41. We have discussed the constitution of the Board and are agreed that it should consist partly of officials and partly of non-officials and that the majority of both should have had as much experience of secondary school work as possible. We think that the selection of its members may be left to Government, or that Government may delegate some at any rate of the appointments to the University, if the University wishes to undertake that responsibility.

42. We have considered the possibility of definitely providing for the representation of the various agencies carrying on secondary education and of specific communities; but the difficulty of defining the agencies is almost insuperable, and the representation of any particular community would seem to serve no useful purpose.

43. The most striking feature of the system is the absence of any attempt to declare that the pupil has passed or has not passed an examination. A study of the University Matriculation mark-books reveals the fact that an enormous number of the candidates come out near the border line between "pass" and "failure." We fear that a large number of school pupils aim at little more than to do just sufficiently well to cross the border line, at any rate having done so whether at the first, second, third or even subsequent attempt they have hitherto, with the exception of the remarkably few who pass in the first class, been ranked for all purposes as of equal merit and have been equally admitted to the privileges attaching to a matriculate. There is, moreover, very little difference in merit between a large number who pass and a large number who fail.

44. The University, refraining as it naturally and properly does from attempting to control the

work of schools, although it has in the most pernicious way dominated the school courses, has not been in a position to do more than fix a border line. The grant of a certificate such as we propose will doubtless do much for school education by taking into account the school work.

45. The certificates themselves present a fairly detailed record of a pupil's school work and its results; the function of the proposed Board, so far as individual pupils are concerned, seems to us to end there. It will be open to Government or the University to define a border line; but we are strongly of opinion that an arbitrarily fixed border line common to all certificate-holders will fail to secure the full advantage that might accrue from a change of system. We hope that it may be left open to any Government officer in whose hands power of appointment rests to select the best among the applicants for such appointment. This should prove infinitely better than accepting a matriculate, if available, and granting wholesale exemptions to the rules, with little guidance as to the merits of the individuals, in cases where a matriculate is not available.

46. The University, on the other hand, might well, under the circumstances proposed, leave it to the heads of colleges to select after inspection of these certificates and further examination (particularly oral or practical), if they think it desirable, those candidates for admission who appear best fitted for a college course. There will be cases in which the applicant is obviously fit; there will be others where he is obviously unfit, and with regard to the doubtful cases the authorities will under the scheme proposed have infinitely better material upon which to base a decision than they now have when the mere possession of a Matriculation certificate generally decides the question.

47. To sum up, we have, while insisting upon a suitable secondary school course, allowed each pupil as much liberty as possible and left to him under the guidance of his school and his parent the responsibility of deciding whether he has done sufficiently well at school to leave it. His aim can never be to merely cross a border line but to do as well as possible in all respects throughout the course. We have also proposed to place great trust in the schoolmaster and in the college principal; should they appear to be abusing such trust which, we believe, will not be the case, the fact will be manifest, and it will be perfectly easy to discount school marks on the one hand or to prescribe a minimum grade

of certificates for entry into a college on the other.

(Signed) A. G. BOURNE, *President*.
(") J. D. W. SEWELL, S.J.
(") J. COOLING.
(") P. T. SRINIVASA IYENGAR.
(") K. B. RAMANATHAN.
(") J. H. STONE.
(") E. W. MIDDLEMAST.
(") W. S. RADAWAY.
(") A. C. PRANATARTIHARA AIYAR.

We are asked to publish the following:

NATIONAL HOME-READING UNION,
12, York Buildings, Adelphi,
London, W.C.
8th July, 1908.

To

THE EDITOR,

"EDUCATIONAL REVIEW,"

MADRAS

(INDIA).

DEAR SIR:

Although some of your readers may be to some extent familiar with the work of the National Home-Reading Union in relation to schools, we feel that there are probably a large number to whom it is as yet quite unknown, but who would be greatly interested in it and perhaps ready to co-operate with us in our endeavour to extend it in India. It is for this reason that we are venturing to ask for the freedom of your columns to give a short outline of this branch of our work. In brief, the general aim of the Union in connexion with schools is to increase the effectiveness of the reading lesson and encourage children in the home-reading of good and healthy books. It is suggested that teachers should become members of our Young People's section. The fee of 1/6 (which local Education Authorities are authorised to pay) entitles the teacher to receive a very carefully selected List of Books and monthly magazines containing suggestive articles dealing with these books. The teachers' class thus becomes an N.H.R.U. Reading Circle and all the members of it are recognised as "school members" of the Union and are entitled to apply for certi-

ificates when certain conditions have been fulfilled. We think that we shall have the support of all your readers when we say that it is not sufficient to put books into the hands of children, and that it is essential that some training be given in the art of reading. It is often the habit of children in reading books at home to skim rather than to read with care and attention. It is to assist the teacher in preventing the formation of this habit that the Union urges that Reading Circles be formed in schools. By the method adopted in these Circles the book chosen is carefully studied; difficult words or allusions are explained by the teacher; the striking beauty and force of metaphors and imaginary that are used, the vivid and pictorial language in which scenery is described, or personal characters are exhibited, and the humour and pathos that occur in the book are commented upon by the teacher, so that the scholar reads with a mind awake to perceive the elements of thought and style which give special value to all the books he reads.

The increasing number of Circles that are being formed in this country are evidence of a widening recognition on the part of Education Authorities and teachers of the value of the Union's work and the part it is fitted to take in the Educational work of the country. We are anxious to extend our sphere of usefulness, and we think there are probably many teachers in India who would be glad to make use of our organisation did they know of its existence. We shall greatly appreciate any co-operation you may be able to give us in making this branch of our work known. We have pleasure in sending a few papers giving information about our work in general and in relation to schools and we shall be pleased to enter into communication and send papers to any of your readers who may care to apply to us.

We are, dear Sir,

Yours faithfully,

J. B. PATON, Rev., D. D. (Nottingham).

Hon. Secretary.

A. M. READ, Miss,

Secretary.

ATMAKUR NOTES.

(FROM A CORRESPONDENT).

During the whole of this week, Atmakur (Nellore District) presented a very lively appearance owing to the sittings of the Atmakur Teachers' Conference. The Board School was gaily decorated and in a neat corner of it were arranged the educational exhibits prepared by the teachers and pupils of the Atmakur Taluq. On a small scale every subject was well represented. The drawings of Muhammad Alli Beg, the maps of G. Krishnayya, the fossils and stones collected by the pupils of the Board School, Atmakur and the needlework of the A. B. M. School at Atmakur deserve special mention. Not the less instructive were the anatomical charts hung on the walls and the life-histories of the frog and the silkworm lent by Mr. M. Subramanyam, B.A., L.T. There were present at the Conference all the teachers in the Taluq numbering fifty-five. The attendance of the visitors increased from day to day and there were more than five hundred present at the open-air magic lantern lecture and at the inter-school sports. A very interesting programme was gone through during the days of the Conference. Model lessons on several subjects: 'Geographical definitions,' 'Decimals,' 'Rain,' 'Telugu Poetry,' 'The Post Office,' 'The Camel,' 'The Forest Department,' &c., were given by capable inspecting officers and teachers. On the opening day Mr. M. Subramanyam read a very interesting paper on 'the proper method of teaching the young' and laid much stress on the importance of adopting the scientific method in teaching youngsters and explained the advantages of cultivating observation, training the hand and developing the powers of reasoning and judgment. Mr. Subramanyam delivered three lectures on 'Elementary Botany.' They were interestingly illustrated and will, we feel no doubt, be extremely useful in creating in the village teachers a taste for Nature Study. Two magic lantern lectures were kindly given by the Rev. Wm. C. Owen. One was on Japan and the other was on Egypt, the slides for which were specially got from Calcutta. It is impossible to give an abstract of the other educational papers read by the teachers at the Conference. Suffice it to say that the majority of them were worthy of the occasion and were most helpful to the teachers. Kindergarten drill and Flag drill which are quite new to the village teachers were well exhibited under the guidance of Muhammad Alli Beg. On the 21st August 1908 there was a story-telling competi-

tion. Twenty teachers came forward as competitors and the prize was awarded to Mr. R. Venkata Subbayya. On the same day were sung a few action songs among which those from the Board School at Kaluvoy and Atmakur and the A. B. M. School at Atmakur deserve praise. On the 22nd August inter-school sports were celebrated and the prizes were given away by Mr. M. Seetharamayya Pantulu Garu. The sack-race, the bob and cocoanut race, the high jump, the obstacle race, and the tug of war between the Board School and the Result School teachers were much applauded. With votes of thanks to Rao Bahadur S. Suryanarayana Prasada Row Pantulu Garu, B.A., Messrs. N. Seshagiri Row Garu B.A., M. Sitaramayya Garu, Rev. Wm. C. Owen, Mrs. H. P. Owen, Syed Khasim Sahib, B.A., who took special interest in making the Conference affair a success and V. M. Krishna Nayar Averal, a very instructive and the first Teachers' Conference in these parts came to a close. It is very interesting to note that the proceedings of each day were brought to a close with a song on 'Emperor Edward' composed in many cases by the teachers themselves, and that Messrs. Krishnaswamy Nayakar and K. Kristna Row gave the teachers, on all the days, between 1 P.M. and 3 P.M. ample practice in free-hand drawing on modern lines. The credit of having got up this Conference is chiefly due to Mr. M. Subramanyam, B.A., L.T., Sub-Assistant Inspector of Schools, Nellore Range and to his subordinate, Mr. K. Venkatasubbiah, the Supervisor of Schools at Atmakur.

At 7-30 P.M., on the 22nd August 1908, in the Board School hall, the Trial Scene in the 'Merchant of Venice' was put on boards by some of the officials at Atmakur. This is the first time that such an attempt has been made in an out-of-the-way place like Atmakur. However, the performance was an unqualified success and the parts of Shylock, Portia, the Duke and Bassanio which were taken up by Messrs. Ghulam Muhammad Munshi, K. Krishna Row, V. M. Kristna Nayar and C. Purnashotama Row respectively were well sustained and deserve special mention.

Reviews and Notices.

A STUDY OF MATHEMATICAL EDUCATION. BY BENCHAMA BRANFORD, M.A., OXFORD. THE CLARENDON PRESS, 1908.

This book by a divisional inspector to the London County Council forms very stimulating reading. It is based upon twenty years' experience of school and college education, as the author was formerly lecturer in Mathematics in the Victoria University. The subjects dealt with range through all grades from the very elements of counting and form in the kindergarten to the standard required for an Honours Degree in English Universities.

At the present day attention is paid to the experimental and graphical side of mathematics, which is exemplified by the use of drawing-boards, improved mathematical instruments, squared paper, spherical black-boards and so forth. Schools and colleges are provided with mathematical laboratories, well-stocked with clay, cardboard, wire, wooden and other models and material, and apparatus for the investigation of form, mensuration and movement. In this book the author has attempted to indicate what appear to be the due functions of the complementary aspects of the study of mathematics, namely, the experimental and the demonstrative.

The main idea developed in the book is that the development of the individual runs parallel to the development of the race, and that this grand biological principle should form the basis of all education. He therefore lays stress upon the value of historical study—the history of the particular sciences in the curriculum as well as of education in general—to teachers and the general public interested in education. The author cautions the teachers of mathematics against making a hobby of any one method or principle in their teaching. The degree to which any particular method or principle can be applied will depend upon the skill of the teacher and the special aptitudes of his pupils.

The twenty four chapters contained in the book are brimful of information and contain many suggestive reflections. The conclusions of the author are often of such importance and soundness that they deserve to be treated as maxims by teachers. The lectures contained in chapters xv—xviii on the mathematical and physical exhibits in the Paris Exhibition of 1900, are highly instructive. In one of the appendices is given a list of the more important works in English, German and French, which are likely to interest mathematical teachers. They bear largely on mathematical history and its application to education. We heartily recommend the book to all teachers of mathematics.

ESSENTIALS OF GREEK HISTORY. BY N. NARAYANA ROW, B.A., L.T., LECTURER IN HISTORY, PITTAPUR RAJA'S COLLEGE, COCANADA. Re. 1.

Mr. Narayana Rao has published for the benefit of the F.A. students a condensed account of the history of Greece. It has always been our belief that books of this kind possess a dubious value with a tendency to supplant text-books. The condemnation of hand-books and 'notes' by the educational authorities has succeeded to a certain extent in driving many of these impostors out of circulation. The histories of Greece and Rome have escaped on the whole the vandalism of notes-compilers mainly because they require a thorough grasp of the subject and a power of clear exposition of it joined to a correct understanding of the purpose and scope of history. The author wishes to be exonerated from blame, his purpose being merely to supplement the text-books 'so as to enable the candidates preparing for the F.A. Examination to understand clearly the constitutional portion of Greek history.' The list of books said to have been consulted in the preparation of the manual is, considering that it comprises books as great as Aristotle and Grote and as small and dull as Robinson, very exhaustive. A perusal of the manual leaves the impression that neither the views nor the accounts of more than half-a-dozen of them have been made use of. As for clearness of exposition it must once for all be stated that the author's attempt has not been an entire success. He takes the student along the orthodox groove beginning from a discussion of the relation between history and geography and proceeding through the chapters on Dorian conquest, the constitutions of Athens and Sparta, the Persian invasions, the Empire of Athens, the Peloponnesian war, the Spartan, Theban and Macedonian supremacies to the history of Federations and the decay of City States. The style is simple, occasionally too simple and bald to deserve print but, on the whole, clear. It is in the arrangement of facts and movements, in the sketch of the constitutional development and, more than all, in the understanding of particular events and policies that much is left to be desired. It is unfortunate that great authorities should have published books of unquestionable value in much the same compass the author's attempt being thus rendered unnecessary. In venturing forth with a book of his own his task has therefore merely been to combine 'the matter' found in the two or three books usually suggested for study by professors of colleges; and, to this extent, in having done the work well, he deserves the thanks of the students;

his study of the books has been carefully done, but many of his pages attest to the difficulty he has experienced in bringing together the information of the books consulted which differ from one another somewhat in their scope and treatment of the subject; hence the unity of purpose most necessary in Greek History is considerably impaired. Any person looking into Chapters XV, XXIII and XXIV of the book will be convinced of the truth of this statement. Again, merely to score points the same fact is repeated over and over sometimes out of its proper place especially with reference to 'Tyrants' and 'Spartan Oligarchy (p. 21).' The nature of ancient history is not fully and clearly pointed out. The student is left helpless in a bewildering maze of facts and views in the chapter on Constitution. No mention is made of the Aegean civilisation. The purpose of neither the Gerusia nor the Areopagus is correctly shown. It must be remembered that it was not the former but the ephorate, in spite of its democratic basis as Sidgwick holds that imparted its oligarchic feature to the Spartan constitution and the latter began to decline just before the age of Pericles (Bury). Again, it is not a fact that Athens and Sparta worked conjointly with one purpose and will during the Persian invasions. Lastly, we should caution the author not to be overhasty in the deduction of any principle for practical guidance from a single isolated instance. His homily about the blessedness of monarchy is rather amusing. 'If we could get the best man' says he 'a single headed state is the best.' So we would say about every thing. If we could get the best collection of men an aristocratic rule is the best and so on. It is a truism not even worth the mention. If these defects are repaired there is no doubt that the book will be of help to the student especially at the time of examination for, in spite of all that has been said against 'the Essentials' we must own that the author has given us in it the benefit of a close and conscientious study of the constitutions of one of the most interesting countries of the world.

THE PHILOSOPHERS AND THE FRENCH REVOLUTION.
By P. A. WADIA, M.A. THE TIMES PRESS,
BOMBAY.

Mr. P. A. Wadia, M.A., of Bombay has issued a second edition of his book 'The Philosophers and the French Revolution.' As the title itself indicates his object has been to determine the share

of responsibility to be attached to the Philosophers of the eighteenth century for the great cataclysm of the Revolution which convulsed the whole of Europe and shook its thrones to their foundations. The emphatic attitude taken by the author in the exculpation of the French writers from the charge levelled against them by a vast array of authorities not only stimulates independent thinking on the important question but also adds an important contribution to the existing stock of views on the subject. The modesty with which he sets forth his opinions cannot blind us to his correct appreciation of the intricacies of human character the patient investigation he has made into the details of the history of the period or the sense of historic proportion he preserves in the allotment of their respective shares of blame to leading personalities and the social movements. In beautiful English Mr. Wadia discusses the question whether the French Revolution was due to the writings of men like Rousseau and Voltaire, and Diderot or to a combination of circumstances dating from the days of the hollow grandeur of Louis XIV. In twelve chapters he points out that the ground for the Revolution had long been prepared when these men came into public stage. It is possible that the extremely popular form of their writings, their simplicity and clearness of thinking may have facilitated the rapid spread of revolutionary ideals among the masses yet they were not the potent authors of the Revolution. The atrocities and terror, the storm of the Bastille, the September massacres and the other bloody incidents of the movement would still have been there even if Rousseau had not come out with his social contract, Voltaire had been an apologist of monarchy and Encyclopædia had never made its appearance. The whole thing was the outcome of historic necessity. No republican party existed in France under the regime in spite of the prevalence of the critic republicanism in 18th century literature. Yet the continuity of history asserted itself and the impetus given to individualism by the renaissance and culminated in the atrocities of the revolution the principle being carried to extremes not only in abstract treatment but also in practical application. In recommending the book to the close attention of the educated public we would invite appreciation of Mr. Wadia's brave attempt to strike out an original path for himself in the treatment of the great question.

Indian Educational Notes.

MADRAS.

MR. G. Maddox, B.A., has been appointed Secretary to the Commissioner for Government Examinations, Madras.

MR. A. C. Pranatartihara Aiyar B.A., Inspector of Schools, acting in the Fifth Circle, to act as Deputy Director of Public Instruction, during the absence of Mr. A. Mayhew on leave or until further orders—to act in the Indian Educational Service.

THE following transfers of Sub-Assistant Inspectors of Schools are ordered:—

(1) Mr. C. E. Venkatramana Aiyar, Sub-Assistant Inspector of Schools, Vriddhachalam Range, acting in the Trichinopoly Range, to be Sub-Assistant Inspector of Schools, Adoni Range, *vice* Mr. H. G. Krishna Rao transferred. To join on relief from the Trichinopoly Range.

(2) Mr. H. G. Krishna Rao, Sub-Assistant Inspector of Schools, Adoni Range, to be Sub-Assistant Inspector of Schools, Vriddhachalam Range, *vice* No. (1). To join on relief.

(3) Mr. T. A. Swaminatha Aiyar, Sub Assistant Inspector of Schools, Trichinopoly Range (on leave), to be Sub-Assistant Inspector of Schools, Mayavaram Range.

(4) Mr. T. Krishna Rao, Sub-Assistant Inspector of Schools, Mayavaram Range, and Acting Assistant Inspector of Schools, Tinnevely Division, to be Sub-Assistant Inspector of Schools, Trichinopoly Range, *vice* No. (3), without prejudice to his present acting appointment.

(5) Mr. S. Swaminatha Aiyar, Sub-Assistant Inspector of Schools, West Srivaikuntam Range, to act as Sub-Assistant Inspector of Schools, Trichinopoly Range, *vice* No. (4). To join on relief.

(6) Mr. P. Subrahmanya Aiyar, B.A., L.T., Headmaster, Government Training School, Trichinopoly, to act as Sub-Assistant Inspector of Schools, West Srivaikuntam Range, in the probationary class, *vice* No. (5). To join as soon as possible.

THE Director is pleased to grant privilege leave for a month, with effect from the date of relief, to Mr. K. Duraiswami Aiyar, Sub-Assistant Inspector of Schools, Chidambaram Range, and to place the Sub-Assistant Inspector of Schools, Cuddalore Range, in charge of the Chidambaram Range, during the above period in addition to his own duties.

THE extension of leave granted to Mr. P. Ramanujachari, Sub-Assistant Inspector of Schools, Tiruvallur Range, is cancelled.

PRIVILEGE leave for three weeks from the 3rd August, 1908 or from date of relief thereafter is granted to Mr. K. S. Padmanabha Aiyar, B.A., L.T., Sub-Assistant Inspector of Schools, East Srivaikuntam Range. The Sub-Assistant Inspector of Schools, West Srivaikuntam Range, will be in

charge of the East Srivaikuntam Range, during the period, without prejudice to his own duties.

PRIVILEGE leave for a month and twenty-eight days from the 25th August 1908 or from date of relief thereafter and furlough for ten months and two days in continuation are granted to Mr. H. Swami Rao, Sub-Assistant Inspector of Schools, Hospet Range, and the following appointments are made during his absence on leave or until further orders:—

(1) Mr. V. Sayanna Sastri, B.A., L.T., Sub-Assistant Inspector of Schools, Cuddapah Range, acting in the Bapatla Range, to act in the Hospet Range.

(2) Mr. V. A. Venkatasubbiah, Sub-Assistant Inspector of Schools, Polavaram Range, to act in the Bapatla Range, *vice* Mr. G. Sambamurti, B.A., L.T., on other duty.

(3) Mr. E. Ramakrishnaia, Supervisor of Primary Schools, Anakapalle Taluk, to act, subject to the approval of the President, Taluk Board, Anakapalle, as Sub-Assistant Inspector of Schools, Polavaram Range, in the probationary class *vice* No. (2).

LEAVE on medical certificate for two months with effect from the date of relief is granted to Mr. T. A. Swaminatha Aiyar, Sub-Assistant Inspector of Schools, Trichinopoly Range, acting in the Mayavaram Range, and Mr. E. N. Ramachandra Aiyar, Supervisor of Primary Schools, Mayavaram Taluk, is appointed, subject to the approval of the President, Taluk Board, Mayavaram, to act temporarily as Sub-Assistant Inspector of Schools, Mayavaram Range, in the probationary class.

THE Madras Government have on the recommendation of the Director of Public Instruction sanctioned with effect from 1st June 1908 a proposition statement for the re-organisation of Government Muhammadan Girls' Schools.

MR. Dewsbury, Registrar, Madras University, announces in the Fort St. George Gazette the success of Govinda Rau, Dhurwar (Register No. 1145) and Ponnaiya, Samuel B. (Register No. 1117.) both of the Central College, Bangalore, in the last Matriculation Examination.

THE Inspector of European Schools has notified that the Primary, the Middle School and the High School Scholarship examinations under the code of Regulations for European Schools will be held on Monday, the 30th November next and succeeding days.

THE annual Distribution of Prizes in connection with St. Mark's School, Royapuram, took place recently in the School compound and was largely attended. An interesting programme, consisting of choruses, recitations and drills was provided by the pupils, and the chair was occupied by the Rev. Mr. Markby, who, in presenting the Annual Report said that the school was at present in a flourishing condition. The year commenced with 64 scholars on the rolls and this number had increased to 78.

In spite of the changes that had taken place, and the numerous removals to other localities, the average attendance had been good throughout. The Tamil vernacular had been taught during the year with the very best results, whilst Dorothy Lowe, who was the only pupil sent up for the elementary practical test in connection with the Trinity School of Music, had successfully passed her examination. The report of the Government Inspector of Schools was most satisfactory in every respect, and the only drawback now experienced in connection with the school was the limited accommodation available. The prizes, which were both numerous and handsome, were handed to the scholars by Mrs. Niblock.

We understand the Wardlaw College, Bellary, will after the close of the present year, revert to the position of a High School and the College classes will be discontinued. We learn that the Board of Directors of the London Missionary Society have been forced reluctantly to this decision after careful consideration. This is the only college of the Society in South India, Travancore excepted. Under the Principalship of Mr. J. P. Cotelingam, it has been doing excellent work during the past 18 years. It was established many years ago as a High School, and was under the care of a succession of European Missionaries with Indian assistants. In 1891, the standard was raised to that of a Second Grade College and Mr. Cotelingam was placed in responsible charge under the direction of a Committee. He is a gentleman of real ability and character. He has been in the Senate during the past eleven years, has been a member of the Board of Studies in Teaching for the last seven years and a University Examiner in History, English and Practical Teaching. He has besides been doing useful work in the Local Boards of the District. The College has been repeatedly recognised to have done very satisfactorily by successive Inspectors of Schools, and a like in the interests of the Mission, the educational needs of the locality and of the zealous and devoted Principal, we very much regret the step the Mission have taken in regard to the College.

THE Government have sanctioned the proposal of the Director of Public Instruction that students of the College of Engineering who joined the college under the old rules and who have as yet failed to obtain a certificate from the Board of Examiners by passing the final examination should be given a further opportunity to pass the examination according to the standard prescribed by the old rules. "A re-examination may," the Government Order goes on to say, "accordingly be held in the current year and the candidates should be warned that all of them should appear at this examination and that no further re-examination will be held. The Director of Public Instruction should, however, understand that no hope of exemption or of appointment should be held out to such of these students as may fail to qualify at the examination."

THE sixty-first Anniversary of the Muthialpet High School and the distribution of prizes to the successful pupils of the Institution for 1907, took place recently at the School premises, with the Hon'ble Mr. P. Theagaraya Chettyar in the chair. The proceedings of the evening opened with a prayer in Sanskrit, and was followed by an appreciable recitation in English and songs and dialogues in the local vernacular languages, including Sanskrit, by the pupils of the Institution, and these were creditably rendered.

After the distribution of prizes the Chairman in a short speech referred to the health of the boys, which he said was in a very good condition, and to their attitude in political life, two things that could only be brought about by the influence of teachers on the minds of the taught, and he deprecated the idea of the minds of young students being impregnated with thoughts of politics. He paid a compliment to the Head Master and the Teaching Staff of the Institution for their trouble in giving moral and religious instruction, and ended with the hope that the institution would exist for ever and ever.

With a vote of thanks to the Chair and a compliment paid by the Honorary Secretary to the Chairman for his energy in promoting local industries and a desire by the Speaker to appeal to him (Chairman) to assist them in the cause of advancing their education, the proceedings of the evening terminated.

THE Governor-in Council is pleased to direct that the School Final Examination held in the Bombay Presidency shall in future be accepted as equivalent to the Upper Secondary examination or the Matriculation examination of the Madras University for the purposes of Article 1 of the Public Service notification.

2. The necessary alterations will be made in the Public Service notification when it is next revised.

THE Government are pleased to sanction a maximum grant of Rs. 6,600 towards the cost of providing additional accommodation for the orphans of the St. Thomé Convent Girls' Orphanage subject to the following conditions:—

- (1) That in carrying out the work, the suggestions of the Chief Engineer in his note read above are adopted;
- (2) That the work is completed before the 31st May 1909;
- (3) That a certificate of the actual expenditure incurred on the work is submitted before the 31st August 1909;
- (4) That the amount expended on the work does not fall short of Rs. 13,200 as actually verified;
- (5) That a trust-deed is executed as required by article 56 of the Code of Regulations for European Schools;
- (6) That all other conditions prescribed in the above Code have been duly complied with.

2. On the above conditions being fulfilled, the grant will be paid as funds become available.

THE Government approve the proposal of the Director of Public Instruction to open a Government Elementary School for Muhammadan girls at Mangalore from the 1st January 1909.

2. The proposition statement submitted by the Director of Public Instruction will be sanctioned with effect from the 1st January 1909.

IN G. O. No 434, Educational, dated 4th June 1908, the Madras Government notify as follows:— "By G O, No. 577, Educational, dated 2nd September 1907, the teaching of the vernacular language to the Engineer class which was formed in January 1907 and to the Engineer-Subordinate class which was formed in July 1906 was discontinued. The Principal of the College of Engineering now proposes that the marks assigned for the vernacular language, the teaching of which has been discontinued, may be distributed among the remaining subjects of study prescribed for the Engineer and Engineer-Subordinate classes. The Government approve this proposal and the marks will be distributed as shown in the annexure to these Proceedings.

2. The reference to G O., No. 159, Educational, dated 20th March 1907, in the Director's letter appears to be incorrect."

ANNEXURE.

Engineer Class.

I. Mathematics (no alteration)	...	450
II. Science (no alteration)	...	500
III. Engineering { Hydraulic engineer- ing 150 Mechanism and the steam engine 150 }	...	800
IV. Drawing { Building drawing 180 Machine drawing 120 }	...	650
V. Surveying (no alteration)	...	500
VI. Physical Fitness (no alteration)	...	100
	Total	3,000

Engineer-Subordinate Class.

I. Mathematics (no alteration)	...	350
II. Engineering { Hydraulic engineer- ing 125 Mechanism and steam engine 125 }	...	675
III. Drawing (Machine drawing 100)	...	475
IV. Surveying (no alteration)	...	400
V. Physical Fitness	...	100
	Total	2,000*

* Marks to be awarded by the Board of Examiners. 1,500
Marks to be awarded by the college staff ... 500

2,000

MYSORE.

It is proposed to hold an Educational Exhibition of the *bona fide* work of teachers and pupils of schools of "general education" in Mysore, in connection with the Dasara Exhibition, for a week from about the 6th to the 12th October, 1908, both days inclusive. The following is a rough classification of the kinds of exhibits which it is proposed to collect from the schools of the State:—

I. Infant and Primary Schools:—

(a) Free-hand drawing with chalk or brush on black-board or paper, from nature or memory or in connection with stories, excursions, etc.; daily observation charts; (b) clay models of objects, animals, etc.; (c) specimens of paper-folding, mounted on card-board; (d) mats of coloured paper, grass, flexible twigs, etc.; (e) bead work; (f) any other handwork; (g) Photographs of children's gardens.

II. Secondary Schools for Boys or Girls:—

(a) Free-hand drawing with pencil or crayon, on paper from nature or memory; (b) brush-work and painting; (c) design; (d) sun records, temperature charts, etc.; (e) Practical Geometry; (f) clay models; (g) models of pith, stick, etc.; (h) basket-work and rattan-work; (i) card board work; (j) models of houses, gardens, villages; (k) Sloyd models—models of turning and carving; (l) Nature study note books; (m) copy-books, note-books, home exercises in all subjects; (n) map-drawing, special maps illustrating physical features, roads and railways, rainfall, population, industries, mineral wealth, etc.; (o) relief maps illustrating geographical terms and Physical features of countries.

III. Girls' Secondary Schools:—

(a)—Wool-work, knitting, crochet, etc.; (b) needle-work—plain and fancy, embroidery of all kinds; (c) lace-work; (d) drawn thread-work; (e) artificial flowers; (f) dolls; (g) bead-work.

IV. Collections of objects suitable for school museums.

V. Records of Teachers' Work:—Time-tables, especially those of Kindergarten and Primary Departments, syllabuses of Nature study and light science, syllabuses of other subjects, schemes of correlation between different subjects, notes of lessons, school registers.

The Board of Education in England and the Director of Public Instruction in Madras have promised to send a collection of English exhibits.

Exhibits from Technical and Industrial Schools will be received by the Secretaries of the Dasara Industrial and Agricultural Exhibition and displayed in a separate part of that Exhibition.

TRAVANCORE.

Miss Ida Gunther, B.A., B.T., till recently the Head Mistress of the Victoria Jubilee Caste Girls' School at Trichur, and who is now in Burmah employed in one of the institutions there, has been appointed Inspectress of Girls' Schools in Travancore. We wish Miss Gunther every success in her new sphere of life.

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Mr. Chidambhara Aiyer, B.A., L.T., Head Master in the Berchman's High School, at Changanacherry, we understand, is to be taken on the staff of teachers of His Highness the Maharajah's High School for Girls.

The fifth ordinary meeting of the Teachers' Guild was held in the upper hall of the Syrian Christian Seminary, on Saturday, the 8th August, at 2.45 p.m. 16 teachers representing the Teachers' Councils of S. C. Seminary, M. G. M. High School, Tholasheri Boys' Middle School, and the Kozancherry near Thoma Syrian High Schools were present.

Mr. K. C. Eappan, B.A., of the M. G. M. High School was voted to the chair. After the introductory speech of the Chairman Mr. A. J. John, B.A., L.T., the Joint Secretary announced the receipt of (a) letters regretting absence from the Teachers' Councils of B. H. High School, S. V. High School, and Syrian High School, Kozancherry; (b) the resignation of the Joint Secretary Mr. V. P. Mammen owing to pressure of other work.

Then Mr. A. J. John read the paper sent by Mr. P. J. Abraham, B.A., L.T., Head Master of the B. H. High School on "The Problem of the Failed Matriculates." After describing the seriousness of the situation due to the yearly increase of failed Matriculates who "in 90 cases out of every hundred return home with a dejected, discontented and self-conceited frame" he asked the audience to support the Government in making the "School Final" a success. He suggested the opening of model forms in connection with every high school. Then he called upon Indian capitalists "to follow industries where English capitalists have shown them the way." This is the Swadeshi movement that will open out to our failed Matriculates "new ways of earning a livelihood and of obtaining wealth." It would seem that this is the only way in which the problem of the failed Matriculate can be solved.

In the discussion that followed:—Messrs. K. Madhavan Nair, B.A., K. C. Mathan, K. N. Krishna Menon, T. C. Abraham and P. K. Oommen took part.

The Chairman in his concluding remarks pointed out the advisability of taking into the federation middle schools and primary schools. He asked the managing committee to make the Guild more attractive. Then he made a few remarks on the paper read and the discussion by the members of the Guild. With the usual vote of thanks the meeting was brought to a close.

The Dewan has sanctioned the opening of two more Mahomedan Schools in the Southern Range where the education of the Mahomedans is most neglected. We are very glad to see that the Dewan is taking particular interest in the education of these Mahomedans and the other backward classes who are inclined to neglect their education.

Mr. O. M. Cheriyan, B.A., L.T., History Assistant in H. H. The Maharaja's High School has been made an Assistant Inspector of Schools from the beginning of the next Malabar year—16th August.

Mr. Narayana Sastri, Sanskrit Pandit in H. H. the Maharaja's College, will be appointed Principal of the Sanskrit College from next month in place of Mr. Ganapathy Sastri, who is on other duty.

HYDERABAD (DECCAN).

THE Hon'ble the Resident, after distributing the prizes of the Mahboob College, Secunderabad, delivered the following speech:—

It is a great pleasure to me to attend the Prize-giving of this very popular Institution. The boys of this Institution are drawn from all classes and communities. We have the authority of the Inspector of Schools that this is one of the best schools in the Dominions of His Highness the Nizam. The results in 1907 were very discouraging. It is true that they are discouraging not only to the pupils but also to the teaching body. At the same time I would say both to the boys who failed and to the teachers that they should not be discouraged by a single failure, but that should stimulate them to make double efforts in the new class for the future examination.

As regards the attendance of the boys I regret to notice that in many cases the parents think that if they send their children to school and pay the fees regularly they have discharged their duty. This I think is a short-sighted and erroneous policy. All must remember that it is in these early years when the boys are in school their character is formed. I therefore ask the parents and teachers to do their best by having religious instruction imparted at home and in schools.

The Hon. Secretary garlanded the Resident and the meeting closed with singing of the National Anthem by the College boys.—*Indian Patriot*.

BOMBAY.

RECENTLY Professor Welinkar of Bombay gave two lectures at the Wilson College. In the first, he spoke briefly of secondary education as it obtains in England and pointed out that there was no secondary education which was altogether literary science being taught as part of the regular education. He thought this was slightly overdone in England and he thought that there was a feeling that general culture was sacrificed to specialisation. There was a general tendency to liberalise secondary education a little more than had been the case and even on the scientific or modern side to introduce a strong element of humanic studies; and in the second, he spoke of the attitude of Englishmen towards Indians. He observed that he had heard some people say that modern visitors to England come back to India with abated zeal and enthusiasm for Englishmen. Some said this was due to the fault of the English people, who had considerably changed during the last fifty years, and that their affection for this country had abated. Mr. Welinkar asked the audience not to believe such a sweeping assertion. In former times only a few men who had achieved considerable distinction in India in different activities of life, as

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thinkers or scholars, visited England. That being so, they drew marked attention in England. But the times were changed. A large number of people who went to England were not known to fame, and consequently had no friends in England. There was no change in the attitude of Englishmen towards Indians. Indians should not forget that a time would come when those Indians who had stayed in England and in some close contact with civilisation, would have large influence in the Councils of Government and in stating Government policy by reason of their experience of English life and English politics. Mr. Welinkar exhorted the Indians proceeding to England to study the character, tastes, likes and dislikes of Englishmen. Describing the chief traits of Englishmen the speaker observed that they were not carried away by intellectual subtleties, but only a practical man appealed to them. They liked enterprise, they liked business and practical sense in a man. After dwelling at length on the importance of studying the most typical English institutions and English homes, Mr. Welinkar made a reference to English Clubs and observed that Indians should try to live in them, if possible, where much good humour could be learnt. Proceeding the lecturer added that the sense of fair-play played in important part in an Englishman's life and he asked his audience, if they aspired to be orators or speakers, to cultivate that virtue of English speakers. In concluding Mr. Welinkar assured his hearers that there was abundant good-will towards India in the minds of Englishmen.

A meeting of the Senate of the University of Bombay was held recently with the Hon'ble Mr. Selby, Vice-Chancellor, in the chair. Two important items of business were on the Agenda paper, the first to be discussed being that of the conditions under which students should be admitted to the Matriculation examination of the University. The other and more important question concerned the reply which has been drafted by the Syndicate to the letter of the Governor-in-Council on the subject of the teaching of Science in the Presidency and the possibility and desirability of centralising the teaching of Science at Poona. Before these two items of business were entered upon, however, the allocation of three new Fellows to the different faculties was agreed upon, the Hon'ble Mr. Basil Scott, Chief Justice, Dr. Harold H. Mann and the Revd. H. Sierp, being respectively assigned to the Law, Engineering and Arts Faculties.

The following provisions are made in the Budget for Educational expenditure:—The special provision which was made in last year's budget for primary school buildings in Bombay City could not be utilised as the Bombay Municipal Corporation has not yet framed a programme for their construction. The provision for grant-in-aid to the Rajkumar College includes arrears of grant-in-aid to be paid from Imperial revenues to cover the extra expenditure incurred before 1907-08 in consequence

of the re-organization of the College staff. Under last year's provision for a new Engineering Laboratory in the College of Science, Poona, was not utilised because it has been decided that the new Professor of Mechanical Engineering should, on his arrival in India, design the proposed laboratory and select suitable equipment. The provision has, therefore, been repeated in this year's budget. On the retirement of the present Professor of Chemistry and Geology in this College it is intended to appoint two Professors, one for Chemistry and one for Geology and Zoology. The superior staff of the Elphinstone and Dacca Colleges will be strengthened by the appointment of an Assistant to the Professors of Mathematics in these institutions, while that of the Grant Medical College and the J. J. Hospital is proposed to be strengthened in pursuance of the recommendations which were made some time back by the Grant Medical College Reorganisation Committee. Another item represents provisions for hostels and play-grounds, the revision of the pay of Head-master principally with a view to make it personal, and the appointment of an Inspector of Drawing. These form part of a programme submitted by the Director of Public Instruction in response to certain suggestions made by the Government of India for the general improvement of secondary education. In making the suggestions we have been given to understand that no help from Imperial revenues should be looked for, and that the whole cost of such improvements in secondary education as might be undertaken must be met from Provincial revenues. The provision for the improvement of the pay of teachers in primary schools marks the first step in the direction of an urgently needed reform. There is no doubt that these teachers are greatly under-paid. The expenditure involved is, however, heavy and in view of the fact that large grants have been made to Local Boards for the development of primary education, it is proper that they should bear a substantial share of the cost. Full provision is made for the expenditure involved in the introduction of the new Code of Regulations for European Schools. The Government of India have sanctioned an annual grant from Imperial revenues, but have declined to make an additional assignment to cover the balance of the estimated charge. The attention of Government having been drawn to the necessity of placing the hospitals in this Presidency in a more satisfactory condition in point of equipment, a special provision has been made for it.

Mr. Cecil Burns, the Principal of the School of Art, Bombay, who has gone home on long leave, is to be employed during his stay in England in the work of selecting suitable candidates for the posts of Inspectors of Technical Schools and Instructors in textile appointments, which have been sanctioned by the Secretary of State for India.

The prize-giving at the Rajkumar College, Rajkot, was held recently and numerous old boys

were present, including the Thakur Sahebs of Morvi, Limbdi, Chuda and Wadia. The successes included two diplomas. Mr. Claude Hill, Agent to the Governor of Bombay, presided, and after distributing the prizes addressed the assemblage. He regretted the diminution in the numbers of the students, which he believed was only temporary. Rajkot College was in the van of similar institutions; especially in the interest taken by the Chiefs, who themselves originally started and now managed it. Considerable financial help would be henceforth coming from Government.

BENGAL.

The Sub-Committee which was appointed to fix the amounts of grants-in-aid to be allotted to the Bengal National Council to its affiliated institutions duly submitted its report to the Executive Committee which has finally adopted it.

The Council having sanctioned Rs. 12,000 for this purpose for the current year, the Committee suggested that Rs. 1,000 should be set apart to be applied in making grants-in-aid of the promotion of education in Primary and Intermediate National Schools and that the following annual grants-in-aid be sanctioned for the current year to the institutions affiliated to the National Council to be paid by quarterly instalment with directions that the same be applied by the grantees towards the equipment of the Scientific and Technical Departments provided that should any of them find it indispensable to apply such grant to other purpose, they shall do so only after obtaining the previous sanction of the Executive Committee.

The Ranchi College scheme has been making slow but sure progress all this time and it is expected that the construction work will begin very shortly. The Maharaja of Burdwan has placed at the disposal of His Honour, the Lieutenant-Governor of Bengal, a lakh of rupees provided that the building operations begin without any further delay. The Bengal Government has moved the Government of India for this purpose and it is understood that permission to advance the scheme will not any longer be withheld. It may safely be anticipated that Sir Andrew Fraser will see the initiation of the scheme prior to his final departure from India. The College is no longer a "model" institution but a residential arts college at Ranchi.

At the meeting of the Senate of the Calcutta University held recently the recommendation of the Syndicate in respect of the affiliation of the Diamond Jubilee College, Monghyr, B. B. College, Muzafferpur, the Scottish Churches College, Calcutta, the Metropolitan Institution, Calcutta, the L.M.S. College, Bhowanipur and the Diocesan Mission High School were accepted by the Senate and permission was granted to a number of students to appear for the University Examinations as non-collegiate students and to a few other persons as teachers.

On the recommendation of the Syndicate and Senate the Governor-General in Council is pleased to sanction the appointment of Professor R. Pischel, Ph.D., Berlin, as Reader to the University of Calcutta for 1908-09 in the subject of "The Philology of the Prakrit Language."

On the recommendation of the Syndicate and Senate the Governor-General in Council is pleased to sanction the appointments of the following gentlemen as University Lecturers for the term of two years in the subjects mentioned against their names—Professor E. Vredenburg, B.Sc., F.G.S., Geology; L. Fernor, Esq., A.R.S.M., F.G.S., Geology; Professor Bipin Behari Sen, M.A., History; Rev. A. Tomory, M.A., Political Philosophy; Professor Binayendranath Sen, M.A., Political Economy and Political Philosophy; Dr. A. Shorawady, M.A., Ph.D., Arabic; Pande Ramavatara Sarma, M.A., Sanskrit, Group A; Pandit Pramathanath Tarkabhushan, Sanskrit, Group A; Pandit Rajendranath Vidyabhushan, Sanskrit, Group A; Dr. T. Bloch, Ph.D., Sanskrit, Group I.

The members of the Anjuman-i-Mozakerai Islamia of Bankura, have submitted a memorial to the Inspector of Schools, Burdwan Division, in which they say (1) that though the district has no less than 100 *maktabs* and five junior *madrasahs*, the Government grant is only Rs. 400; (2) that the Government, having regard to their backward condition will be pleased to reserve a certain number of Upper Primary and Middle Examination scholarships exclusively for Mahomedan students; (3) that Government will preserve Urdu in their ordinary daily business, and (4) that a Mahomedan hostel be attached to the Government Zilla school in Birbhum.

The Lieutenant-Governor, accompanied by the Hon. Mr. Lyon, Chief Secretary, and Mr. Nathan, Commissioner, inspected the Dacca College recently. Sir Charles was met at the main entrance of the College buildings by Mr. F. Turner, officiating Principal, the other professors and staff, and conducted round the class rooms. The college, which has already cost some twelve lakhs of rupees in building, is divided into three main blocks, containing the school of engineering, the laboratory, and the college proper, the latter including the Curzon Hall, which, when completed, will both in dimensions and decoration be one of the finest public halls in India. Whilst inspecting the laboratory His Honor was asked to address a few words to some 100 students collected in the very fine lecturing theatre, and in a short extempore speech Sir Charles urged the importance of forming when at college habits of discipline and obedience; and pointed out that whilst they all looked forward and rightly to a great and bright future for Bengal, they must remember this future was in their own hands. The students now gathered here would, in a few years, be the manhood of the race, the fathers of the next generation; and to learn to obey and to govern themselves was the first step to learn to command and to govern others.

His Honor's remarks were listened to with much attention and at their close the Principal thanked Sir Charles for his kindness in honouring the college with a visit.

The Lieutenant-Governor was subsequently shown over the two comfortable and commodious hostels which adjoin the college.

In connection with the rules regarding the proficiency examination in Urdu, it has been decided that in addition to the quarterly examinations, the Secretary to the Board of Examiners, Calcutta, will also conduct two examinations annually at Lucknow and two at Lahore in March and October.

ASSAM.

It is notified that the Assam Education Department Examination for 1908-1909 will be held on the undermentioned dates: (a) Middle and Upper Primary and Lower Primary Scholarship Examinations and the Khasi and Jaintia Hills Training School Examination and Sanskrit Tol and Madrasa Examinations on Monday, the 23rd November 1908, and the following days. (b) Training School Examination, Garo Hills on Monday, the 7th December 1908, and the following days. (c) Training School Examination on Monday, 10th December 1908, and the following days. The examinations will be held from 10 A.M. to 1 P.M. and from 2 P.M. to 5 P.M., and two Papers will be given each day in each examination.

UNITED PROVINCES.

The "Fazil" and "Mulla" Examinations of the United Provinces are conducted by the Department. The Fazil examination is equivalent to the M.A. degree in Arabic of the University, and no candidate is admitted unless he has first passed the Mulla examination. The number of candidates continues to be small. For the former examination there have been only two during the whole quinquennium, one in the first and the other in the last year. Both were successful. In the Mulla examination the number has fluctuated, having fallen from ten in 1902 to three in 1906, and again risen to fourteen in the year under report. Candidates were sent up from nine institutions: seven passed, but only one was placed in the first division.

The majority of students of Arabic and Persian in the United Provinces have hitherto been accustomed to appear in the examinations in Oriental languages conducted by the Punjab University; but the new Universities Act has placed our Oriental scholars outside the jurisdiction of that University. The question has lately been raised whether steps should not be taken to raise the value and the quality of our own examinations.

The United Provinces Government have addressed a letter to the Government of India with reference to the recommendations of the Committee on the Improvement of Secondary Education which sat at Naini-Tal in June 1907. Sir John Hewett concurs

with most of the recommendations and urges the additional expenditure proposed as absolutely necessary, as existing arrangements are interfering with higher education. The expenditure proposed is five lakhs for new schools, two and a half for enlarging existing school accommodation, and one and a half lakh for boarding accommodation. The extra annual expenditure on education will be three and a quarter lakhs for aiding English Secondary Schools, and Rs. 8,400 for special Inspectors.

PUNJAB.

It is notified for general information that His Honour the Lieutenant-Governor of the Punjab has been pleased to direct that in future the sons of teachers employed in recognized schools, whose salary does not exceed Rs. 30 per mensem shall be exempt from the payment of fees in the primary and secondary departments of vernacular schools.

The Committee is appointed every year by the Syndicate of the Punjab University to inspect the various affiliated colleges. In addition to making a separate report on each college, the Committee have made this year, a number of general recommendations for the benefit of the colleges collectively. They consider that Principals of the affiliated colleges should periodically meet in conference, in order to discuss points of discipline and other matters in which co-operation is advisable. They suggest that the Principal of the Lahore Government College should take the initiative in summoning such a conference. They are of opinion that there should be a council in every affiliated college, meeting regularly, and consulted by the Principals before action is taken in important cases. They recommend the adoption of some form of tutorial system in all the larger colleges so as to bring the members of the staff into closer touch with the students, thus strengthening personal influence. They emphasise the importance of a judicious selection of books for college libraries, and of encouraging the use of libraries as part of the University training. They draw the attention of the Heads of Colleges to the desirability of disciplinary and other measures to secure better work and more regular attendance in the first and third-year classes, and suggest uniform refusal to advance to the next year, first and third-year men who have failed badly in their House examinations. All these recommendations have received the approval of the Syndicate.

BURMA.

A new Mahomedan School has been opened in Taunggon, the cost of the building having been provided by public subscription.

The literary society of the Rangoon Baptist College has organised a public debate, conducted entirely by Burmah ladies on the subject of High Education for women in Burma. It is reported to have been interesting and successful, and the victory resting with the affirmative.

THE Secretary of State has appointed Mr. A. D. Keith to the Indian Educational service, to hold the appointment of Professor of English and History at Rangoon College, the post being a newly created one. Mr. Keith is expected to arrive in Rangoon by the beginning of October.

INDIA (GENERAL).

THE privilege of nomination by the Principals of Engineering Colleges in Madras, Bombay and Bengal, for appointments to the Provincial Services of the Indian Telegraph Department, has now been withdrawn by the Government of India. In the case of Roorkee College in the United Provinces, one appointment in the Department is to be continued, and offered for competition in each of the next three years, after which no appointment will be available.

THE following are the results of technical examinations of the Birmingham University in respect of Indian students sent out by the various Provincial Governments in India. We find the names of the following successful scholars, with the name of the Government which sent them out and the year when they left India:—Mr. Abdul Hafiz (Punjab Government); Mr. Asoke Bose (Bengal Government 1904); Mr. Ajit Mohan Sen and Mr. Cyril S. Fox (Bengal Government 1905); Mr. Manmatha K. Roy and Mr. Charles Ashcroft (Bengal Government 1906); Mr. Patel I. Bruhl (Bengal Government 1907); and Mr. Himangsu Mohan Mitra (E. B. Government 1907.)

THE Secretary of State has appointed Mr. J. Maclean of Worcester College, Oxford, and Mr. E. L. Preston of Trinity College, Dublin, to the Indian Educational Service, Bengal.

CEYLON.

THE long-expected new buildings for the Law Students' Lecture Halls, Library, &c. are in sight. The Council of Legal Education has appointed Messrs. F. J. de Saram, sr., J. W. Vanderstraeten and Arthur Alvis to negotiate for the purchase of buildings next to the Fiscal's Office, now the property of Dr. Walter VanGeysel, and the adjoining premises, between Staples House and the double-storied building, opposite the Courts Post Office. It has been decided to acquire these properties, the former at a price not exceeding R35,000 and the latter at a price not exceeding R16,000. Unless both can be acquired, some other site is to be chosen. Mr. E. Skinner, the well-known architect, has furnished the Council with plans for a fine, spacious and imposing building. The estimated cost is R95,000. The present rented building is to be given up. The Chief Justice is expediting the matter to bring it to a satisfactory issue without delay.

Foreign Notes.

GREAT BRITAIN AND IRELAND.

A MATRICULATION Board has been constituted by the London University Senate. For 1908-9 it will consist of the Chancellor, Vice-Chancellor, Chairman of Convocation, and twelve other members, four of them chosen from the Council for External Students. The duties of the Board are to consider and report upon such matters as the regulations for the examination; the appointment of examiners, assistant examiners, and moderators; the preparation of statistics; and exemptions under Statute 116.

A BEGINNING has been made in the distribution of the Oxford University Endowment Fund. A lectureship of £250 a year in political theory and institutions has been decided on, and a grant of £50 a year to the Maitland Seminar Library; a sum of £12,000 has been reserved for additional storage room at the Bodleian when the Hebdomadal Council submits satisfactory plans; and the principle of a lectureship in the Japanese language, literature, history, and institutions has been approved.

THE Council of the Froebel Society have addressed a letter to the Board of Education, in answer to the recent appeal of the Board for expressions "of the views of the teaching profession," again urging the direct representation of the Froebel Society upon the new Registration Council, on the ground that the society represents the interests of a very large number of women teachers who are not "represented" by other bodies, and who are not "special" teachers for special subjects, but are trained general teachers of young children. The status, influence, and education of these teachers will, it is believed, be raised and improved by their representation upon the Council and their admission, on suitable terms, to the register.

APPLICATION is to be made to the Board of Education by the Governors of the Manchester Grammar School for sanction to their taking over the Sale High School for Boys.

HAROLD Barrington, aged 14, has just left Queen-street Municipal School, Bradford, Manchester, with a splendid attendance record. During the past nine years he has never been once absent or late.

THE First International Moral Education Congress will sit at London University from September 25th to 29th. All schools of thought, without distinction of religion or party, will be represented by educational leaders from America and most of the European countries. Mrs. Bryant, D.Sc., is President of the executive committee, while M. Léon Bourgeois and Prof. Forester of Berlin are President and Vice-President respectively of the general committee. The essentially practical object in view is the improvement of the moral education offered in schools.

REV. Henry Walker has been appointed Principal of the York Training College. He has been Vice-Principal for the past three years.

THE annual distribution of prizes of the Camden School for Girls took place recently, when Mr. William Latham, K.C., presided.

THE Rotherham Education Authority has decided to continue the present pupil-teacher system, and not adopt the bursary system of training teachers.

OXFORD college entrance scholarship examination dates are announced as follows:—December 1st, Classics (Exeter, Oriel, Brasenose, Christ Church); December 8th, Classics (University, New College, Corpus Christi); March 16th, 1909, Classics (Magdalen).

THE Education Committee of the London County Council give an answer in a double curriculum they have drawn up by way of experiment in connection with a Greenwich school of training. The course extends over three years, and in the first year the time-table for the two classes is the same. In the second year industrial students receive an additional hour of science, and French is passed over; while commercial students receive ten minutes more tuition in art less in singing. In the third year the industrials lose an hour at English and gain an additional half-hour at mathematics, fifty minutes at art, and two hours at metal work. The commercials are reduced by half an hour in science, and in art by ten minutes. The time devoted to English is increased by one and half hours, to history and geography by half an hour, and to French by one and a half hours. The total number of hours weekly is twenty-seven and a half, and in the third year practically one fourth of the commercial scholar's time is given up to English, a sixth to mathematics, and a sixth to French—a very fair division.

MR. BIRRELL has at last announced the amount and method of allocation of his promised grant to primary education. It was understood the amount would be more than £100,000; the actual figure is £114,000. £100,000 will be paid as a capitation grant to teachers whose average attendance is not less than thirty-five, and the remaining £14,000 to the teachers whose average attendance is more than seventy. The great difficulty in Irish primary education is the large number of small schools, and the number of schools which will not partake in the benefit of the grant on account of smallness of number is said to be nearly three thousand. This, of course, will give rise to some unpleasantness, but at the same time Mr. Birrell cannot be accused of not keeping his promise to do something for the Irish primary-school teacher. It has also been pointed out that the grant to Scotland from Imperial sources is still half a million larger than that to Ireland, although the number of pupils in primary schools is about the same.

GERMANY.

THE death of Dr. Otto Pfeiderer, Professor of Theology in Berlin University, at the age of sixty-nine, removes one of the leading German theologians. He studied under Baur at Tübingen, and passed some time in theological colleges of England and Scotland. He became Professor at Jena in 1870, and was called to Berlin in 1875. In 1875 he published a couple of volumes on Paulinism; in 1886—88, "A Philosophy of Religion on the Basis of its History," in three volumes; in 1890, "The Development of Theology in Germany since Kant"; in 1894, the Gifford Lectures (delivered at Edinburgh University), on "The Philosophy of Religion"; besides collections of essays on similar subjects. The views he expressed in his Gifford Lectures caused so much alarm in Presbyterian circles in Scotland that Principal Rainy and two other theological professors delivered a series of lectures in reply. Dr. Pfeiderer was prominent in philosophy as well as in theology.

AMERICA.

THE second annual congress of the Playground Association of America will be held in New York City on September 8th to 12th of this year. Among the speakers will be many well-known American educationists. The Mayor of the City of New York has consented to serve as honorary president, and prominent people from all parts of the country will act as officials. The congress will in every possible way try to arouse a strong public sentiment toward the further progress of the playground movement.

DR. Sutherland Simpson, M.D., D.Sc. Edin., Lecturer in Experimental Physiology in the University of Edinburgh (for the past seven years), has been appointed Professor of Physiology, and Dr. Andrew Hunter, M.D. Edin., Professor of Bio-Chemistry, in Cornell University, Ithaca, N.Y.

NEW ZEALAND.

FOR more than twenty years the primary-school teachers of New Zealand have had a properly organised union, the New Zealand Educational Institute. This association consists of a number of local branches which send delegates to an annual meeting of the council held at various places throughout the Dominion. As the direct result of the activities of this body, many ameliorations in the lot of the primary-school teachers have been secured, notably (a) security of tenure, (b) superannuation, (c) a colonial scale of staffs and salaries. The benefits of superannuation have been extended to secondary-school teachers as well. But for the last twelve years no meeting or conference of teachers in secondary schools has taken place. At last, however, the Secondary Schools Conference has been resuscitated, and a very helpful and important meeting lasting over several days has been held at Christchurch. It is hoped that future meetings will be held regularly at Christchurch and Wellington alternately. A glance at the map will show the reason for this geographical distribution.

The Educational Review.

In his *School and Society* Prof. John Dewey adduces forcible arguments for the introduction of manual training into all schools. He points out that the interest of the great majority of human beings in education is practical and not intellectual. "While our educational leaders are talking of culture, the development of personality, etc., as the end and aim of education, the great majority of those who pass under the tuition of the school regard it only as a narrowly practical tool with which to get bread and butter enough to eke out a restricted life. If we were to conceive our educational end and aim in a less exclusive way, if we were to introduce into educational processes the activities which appeal to those whose dominant interest is to do and to make, we should find the hold of the school upon its members to be more vital, more prolonged, containing more of culture." "We have found," continues Dr. Dewey, "that handwork, in large variety and amount, is the most easy and natural method of keeping up the same attitude of the child in and out of the school. The child gets the largest part of his acquisitions through his bodily activities until he learns to work systematically with his intellect." Again, the history of scientific discovery and invention, which is the key to the teacher for the right method in teaching science, points to manual work as the basis from which the teacher has to start. Manual occupation is of the greatest value in education, because it appeals to the pupil's judgment by means of work whose value and success he can appraise by his own standard. "Set him to work of which he sees no outcome, and he does it either under compulsion for fear of punishment or for the unworthy motive of self-interest. Set him to work which will yield a

tangible result, to make something which is of real use to somebody, and he does it from a right motive as a thing worth doing in itself, and if it is worth doing in itself, then it is worth while also to bestow thought on it and learn how to do it as well as possible. Manual occupation gives a real first-hand motive for work and thought and inventiveness instead of a secondary motive which is false, and that real first-hand motive is one of real service to the community." Moreover, it is an established fact that manual training has the remarkable effect of reducing crime. The Industrial Conference which is to meet next month at Ootacamund would do well to note these facts.

It will be conceded by all that one aim of moral instruction is to produce good citizens, "to give us manners, virtue, freedom, power." To gain these excellent things, we must make a strenuous effort. One way of attaining this end is to make moral instruction an important part of every elementary-school curriculum. In a circular recently addressed to elementary-school teachers, the Moral Instruction League in London has explained what might be done in schools. The circular says:

"1. We deprecate any test other than a most sympathetic watchfulness on the part of inspectors as to the tone and manners of the children and the general principles animating the whole of the school work. Individual paper examinations would violently injure the usefulness of the moral lesson."

"2. We are of opinion that the time-tables now in vogue might be appreciably lightened by the omission of much of the labour now devoted to spelling and formal grammar, to arithmetic that only remotely bears upon practical life or beneficial intellectual exercise, to such reading books as are unreason-

ably difficult in style or uninteresting in matter, and such geography as, in spite of recent improvements, still comprises much useless information and a disproportionate mass of statistics."

"3. Nor do we view with approval the practice of introducing special teachers or lecturers for such subjects as temperance, hygiene, thrift, &c. These themes lose in moral value if treated as isolated departments of conduct. The character should be regarded as a whole, and to invest any particular habit with the distinction of an "extra subject" only confuses the child's moral sense. The teacher who, through daily and hourly intercourse, is familiar with the thoughts and sentiments of the scholars is best fitted to deal with the delicate task of training their ethical judgment."

In this connection we must draw the attention of teachers to the first International Moral Education Congress, which will meet next month in the University of London. The Congress has an essentially practical object in view, namely, the improvement of the moral education given in schools. It will therefore restrict itself chiefly to a general survey of school problems from a moral point of view. The discussion will bear on matters of school organization, of methods of training and teaching, of discipline, of direct and indirect moral instruction, of the relation of moral education to religious, intellectual, æsthetic and physical education. The holding of the Congress has been welcomed by the educational leaders of Europe, without distinction of religion or party.

We are glad to note that, under the guidance of a sympathetic governor, the presidency of Bombay is making headway in educational matters in various directions. We give our warmest approval to the

action taken by the Government of Bombay to stimulate commercial education. One of the chief obstacles to the industrial and commercial development of India is the lack of a sound knowledge of economics and modern commercial principles. This deficiency may be remedied by establishing commercial scholarships tenable in England or by extending higher commercial education in India. The Bombay Government has wisely decided to adopt the latter plan. Only in a school of commerce established in India would it be possible to have the course of study and instruction adapted to the needs of the country. Further to be productive of any appreciable effect on the business of the country as a whole commercial training must be given on a fairly large scale. A school of commerce in Bombay will surely be productive of more good to the country than any system of scholarships tenable in foreign countries. The Bombay Government has therefore decided, as an experimental measure, to invite Professor Lees Smith of the London School of Economics and Political Science to deliver at least ten lectures during the approaching cold weather season. His Excellency the Governor in Council is of opinion that the appreciation evinced in these lectures will lead to a repetition of the course and the eventual establishment of a chair of commerce at the University.

The report of the special committee appointed by the Government of The School Final Examination. Madras to devise a suitable scheme for the contemplated school-leaving certificate examination

for this presidency has been for sometime before the public. We must say we are sadly disappointed with the recommendations of the committee, though the committee may be given credit for its novel suggestions concerning the keeping of a register for the conduct

of every boy in the school. The scheme outlined by the Government was in every way better than the one prepared by the special committee. The committee say that it would be impossible to conduct the examination at the candidate's school, but they have not given the reasons. We firmly believe that no examination will be regarded by students as a school examination unless it is conducted in the school by the teachers. We are glad to note that what the Madras committee has reported as impossible has been accepted as the proper thing by Sir John Hewett's Government in the United Provinces. There the school-leaving certificate examination is to be conducted at the candidate's school by a board of examiners, and no fee will be charged for admission to the examination. Further the Allahabad University has recognised the school-leaving certificate examination as qualifying for entrance into the college classes. This is how it ought to be, for it does away with the necessity of passing two different examinations. This is a matter worthy of consideration by the Madras Government. The subjects of examination must of course be partly compulsory and optional. The compulsory subjects ought to include English, arithmetic, the vernacular of the candidate, Indian history, general geography with the geography of India in detail, and elementary science. The optional subjects must be so grouped as to make the examination serve for entrance into the University or the technical colleges.

Some months ago we had to comment on the conduct of the principal

Discipline in of a first-grade college in colleges. Northern India, who dismissed a student of the M. A. class for expressing in one of his essays an unpalatable opinion on the causes of frequent famines in India. We regret to note the occurrence of a similar incident in Southern India. It is

reported that in an essay read before a students' association a member of the B. A. class of a first-grade college in Madras made a remark which appeared to the chairman of the meeting as an indirect insult to the Government he had the honour to serve and the result was the infliction of a heavy fine upon the student. Is this treatment to be called discipline or repression? It is but right that students who take part in political agitation should be punished, but what can be the meaning of punishing a boy for what may be construed as an innuendo in an essay read before a debating union? Does it not indicate a lack of sympathy and want of understanding? Could not the chairman by tact and large-heartedness endeavour to correct the views which appeared to him unwholesome and perverted? Is it not the duty of college professors to discuss with their students various questions and show them that there can always be two sides to a question? External constraints will only bring about deleterious results. They will destroy self-reliance, weaken character, and lead to the growth of deceit and hypocrisy. The enlightened system of education, deliberately inaugurated in India by Lord Macaulay, has given birth to a tide of patriotism and national aspiration. Do educationalists believe that by adopting repressive and unsympathetic measures in colleges they can check the rising tide? Is it not the main purpose of education to create sturdy manliness, love of freedom and desire for self-government? The students of colleges should be treated by their professors rather as friends and brothers than as slaves.

The debate on the Indian Budget in the House of Commons formed the occasion for invectives on the system of education now obtaining in India. One of the main causes leading to the present unrest in

India is said to be the defective ideal which had inspired the present educational system. What exactly the defective ideal is has not been pointed out. We are not of those who may think that the present educational system is free from defects. But it does not deserve the opprobrium that has been heaped upon it by Messrs. Percy, Rees, Craik and Co. That our education is a little too literary, that the general education given in our schools and colleges might well be combined with courses of professional training which would enable men to make their own living more easily, are points on which there can be no difference of opinion. But that the educational system inaugurated by Lord Macaulay is entirely faulty and had we make bold to deny. A system of education which enables Indians to beat the best students of the United Kingdom at their own examinations deserves more considerate treatment than has been accorded to it in some of the recent speeches in the House of Commons. Count Bismarck is credited to have said: "If England were to lose Shakespeare, Milton and all her literary heroes, that which she has done for India is sufficient to establish for ever her merit in the world of culture." Is not this glorious and beneficent work of Britain in India the result of the far-seeing educational policy laid down by Lord Macaulay? We hope that any future reform of the educational system of India would be such as would establish beyond cavil the title which Britain has already earned to the gratitude of India. The question which demands urgent solution is how to give a boy that instruction in a school which would enable him to enter a wage-earning occupation.

"Religion and our schools" is the subject of an illuminating article by Prof. John Dewey in the last num-

ber of *The Hibbert Journal*. The problem of teaching religion appears to him intricate and difficult. The question of just what concretely comes under the caption of religion to-day is hard to decide owing to the heterogeneity of social life. If religion is a matter of personal experience and realization, no one can pretend to teach it. Nor can religion be taught as an abstract science. Religion has to be taught as something. And what shall knowledge of religion as an outcome of instruction mean to-day? At present the feeling permeating all schooling is that every subject, every fact, every professed belief must be impartially subjected to the same tests. But from the point of view of the advocates of religious instruction the characteristic of religion is "secret not public; peculiarly revealed, not generally known; authoritatively declared, not communicated and tested in ordinary ways." If the scientific standpoint is the embodiment of integrity of mind, and not merely a technical device, can the teaching of the history or the content of religion in any other than the scientific spirit be permitted? "Is religion a thing so specialised, so technical, so 'informational' that, like geography or history or grammar, it may be taught at special hours, times and places by those who have properly 'got it up,' and then approved as persons of fit character and adequate professional training?" Can not after all the consciousness of the spiritual import of experience, which is the ultimate significance of all true religion, be better cultivated by pursuing the right methods of instruction in the so-called secular subjects? "Our ordinary opinions about the rise and falling off of religion are highly conventional, based mostly upon the acceptance of a standard of religion which is the product of just those things in historic religions which are ceasing to be credible. So far as education is concerned, those who believe in

Foreign Notes.

GREAT BRITAIN.

We have looked too exclusively (says the *Times*) to education as a means of enabling lads to do the best for themselves in the world. It will fail signally to give what is most required if it does not fit them also to do the best for others—if it does not enlarge their sympathies and interests and make them effective citizens.

At the annual dinner of the Bristol University College Colston Society, Mr. O. A. Wills, President, announced that his father, Mr. H. O. Wills, had promised 100,000*l.* towards the endowment of the University for Bristol and the West of England, provided that a charter be granted within two years. It was stated that of the 250,000*l.* required before the charter can be applied for, 197,000*l.* had been given or promised.

Dr. Cohen, a University Professor of Chemistry, spoke out strongly in the *School World* recently against the teaching of Chemistry as a school subject, and in the correspondence evoked by his article a Science Master complains that "each Professor wishes us, in our schools, to teach all but his own subject: the Professor of Chemistry tells us to teach Mathematics and Physics well, and he can teach the Chemistry; the Professor of Physics would have us send him pupils who have a thorough knowledge of Chemistry, Mathematics, French, and German, and he would like Physics to be a sealed book," and so on.

The *Westminster Review* publishes a very interesting article on "Chinese students in Japan" from the pen of a Chinese contributor, Mr. V. K. Ting. There are 1300 Chinese students in Tokyo, 500 in the United States, and 500 in Europe.

PROPAGANDA IN MAGAZINE AND BY PLAYS.

Mr. Ting gives an interesting account of the way in which the Chinese student influences opinion in China:—

Whilst learning, they make themselves heard in two ways: by means of the Press, and by delivering lectures during the summer when they return home for the vacation. The way they carry on the former is very interesting and ingenious. At one time, when their number did not exceed a thousand, no less than six monthly reviews of about 200 pages each were published. In fact, nowhere is it easier to start a magazine than among the Chinese students in Japan. Two or three promoters, a special meeting, a few speeches, and a general subscription, are all that is necessary. Contributors are volunteered, editors are elected, and both are gratis. With a very small sum of money and little time, they would print two or three thousand copies and send them to China for sale. By the time the

next number is ready for the Press, the money derived from the sale of the previous number has already come to hand, and thus they carry on their business, which, however, gives them no profit and requires a great deal of energy. These magazines are usually well written, and have a good number of subscribers.

The students in Japan have written several new and original pieces for their own acting—a fact that would shock even the most enlightened class seven years ago.

THEIR RELATIONS TO THE JAPANESE.

Mr. Ting complains that—

The Japanese, though very polite and hospitable to their European visitors, are strangely insolent and reserved towards the Chinese. No Japanese family of any distinction now ever troubles about or takes interest in the Chinese students, whom at first they welcomed in the enthusiasm: as soon as the novelty lost its charm, reaction set in and their doors are shut before their faces.

WHY, THEN, DO SO MANY STUDENTS GO TO TOKYO?

I could recount here some of the facts regarding the reason why. The simplicity of the Japanese language as compared with the European in itself would provide sufficient explanation. An intelligent Chinese has no difficulty in reading Japanese after three months' study. The brilliancy of wealth and power that is displayed in the West dazzles the Chinese students, and makes them lose their heads, but in Japan they do not run this risk, and have time to collect their thoughts. They learn at second hand, it is true, but not at second rate. Again, living in Tokyo is four times cheaper than in any European or American country, and, but for this cheapness, thousands of students would never have been able to leave their native land.—*Review of Reviews.*

"AGRICULTURE THE BASIS OF EDUCATION" is the title of a very suggestive paper in the *Monist* by Mr. O. F. Cook, who boldly challenges current opinions of training the next generation: Mr. Cook begins by saying that "interest is intellectual appetite." It is the index of the mind's readiness for the assimilation of knowledge. Formal instruction does not arouse interest, but can speedily deaden and destroy it. It results in a scholastic dyspepsia. "It is as though horse-breeders were to follow the methods of the hog-raiser or as though the system of producing fashioned geese were applied to game-cocks or to carrier-pigeons." Education means greater power of active, not mere plethora of erudition.

GERMANY.

It might justly be maintained that to qualify for Government positions, or for other reasons, the University graduates of Germany have attacked in fifty years, and with only the appearance of scholar-

ship, the work that might have employed genuine investigators for a century to come. The result is that as creative scholars arise they will find the field encumbered with previous studies too badly botched to be helpful, yet, unhappily, not quite empty enough to be negligible.

FRANCE.

A CURIOUS report comes from Paris, where it is said that a wonderful calculating girl, Mlle. Diamandi, has just been presented to the Society of Anthropology in Paris. In the presence of many eminent mathematicians she performed several remarkable feats, such as working out almost instantly, and by mental process only, the square of twenty-five figures, subtractions of sums of twelve figures, the square root of from eight to twelve figures, and the cube root of from six to ten figures. Mlle. Diamandi, who is only twenty years of age and of Greek origin, says that every figure presents itself to her mind's eye in a different colour. Thus No. 1 is always black, No. 2 yellow, No. 3 pink, and so on. This colour vision is constant, and is entirely independent of her own volition.

RUSSIA.

MR. VICTOR E. WARDEN gives a deplorable account in the practical teacher of the state of chaos that exists in Russian schools of to-day. For at least two years past, he says, no work has been done in the schools of Russia, except, perhaps, the rural common schools. From the Universities and other schools of equivalent rank, down to the secondary schools of all characters, teaching has been impossible and learning entirely lost sight of. Instead of pursuing the regular course of University studies, ninety-nine out of every hundred students have been engaged in filling their brains in the theories of Government. All the political "demonstrations," "manifestations," &c., of the past few years—except those of the Black-Gang—have been engineered by students. They have wrested from the Government a nominal autonomy for the Universities. But instead of utilising the new privilege to the full, they have been absorbed in political agitation, and there will be a deficiency of men qualified to fill University drains for years to come.

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what the M.E. Rules require,—a headmaster's conduct under this ordeal will be and must be influenced by so many other factors—his learning, his intelligence, his official and other relations with the local magnates, the security of tenure of his office, his independence of character, his salary (not the least element of his greatness) and so on. Of these qualifications for success in the new scheme, not every headmaster possesses the requisite share. And those who fall short are likely to play false to the trust placed in them by the scheme. Nor would such conduct be altogether without excuse. For it presumes more heroism than human nature is ordinarily capable of to expect that a low-paid and inconsequential schoolmaster could muster up courage enough to stint his marks to his own manager's son, nephew, cousin or cater-cousin, or for that matter even to such relations of his manager's friend,—perhaps a formidable Deputy Collector, or an influential *sowcar* in banking relations with his own master, or a prosperous Vakil who tears along the highway in his rubber-tyred brougham past the schoolmaster trudging along the farthest edge of the road in all the classic simplicity of his *swadeshi* slippers, canopied with rather an ancient looking umbrella. Between such men and the little schoolmaster, it were cruelty to institute a comparison in all that makes for greatness as the world understands it to-day. Do not, I plead therefore, confront the headmaster with such odds, and then condemn him if he succumbs. For the age of heroism is gone, and that of expediency has succeeded.

What then is the remedy? To me the remedy lies, not certainly in altering the certificate scheme, but in raising the headmaster in the esteem of the local public, and in

making his tenure of office less dependent on the pleasure or caprice of the manager. In other words pay the headmaster more adequately to his great responsibilities, and thus bring his status more on a level with the other "big wigs" of the place. And let Government—or, what is the same, the Director—reserve to itself an efficient voice in the fixing of the salary, the appointment, and the dismissal of at least the headmaster in all recognised institutions. This would at once alter the situation for the headmaster, and the incubus of dread of his manager's wrath or that of the other local magnates will be lifted off his weighted soul, and he will feel more equal to the new task imposed upon him by the scheme. It may be asked if the ideal will be reached after this. To this my reply is that though the ideal is not reached, for the reason that it is an ideal, the probability of lapses on the part of the headmaster would be much less by far, because the punishment he will bring down upon himself by his derelictions is bound to be certain and severe as it would be just and deserved. The scrutiny of the Inspector would be that of an expert, while the verdict of the Director would be that of a competent judge without a tinge of local prejudice or personal malice.

The next point to which I would solicit the attention of Government is the studies of our secondary course or rather the methods of such studies. Of course I do not mean to suggest that Government should include in its scheme any pedagogic rules for class teaching. But what I do want to say is that all secondary studies should as far as possible be conducted with, what I call for want of a better phrase, an agricultural flavour. The Government should insist on this and make

it a leading feature of our future secondary education. And my grounds are these.

Our country is in the main an agricultural country, and the improvement of this great source of our wealth can only be effected by more of our educated people taking to this industry. And one way of encouraging the influx of large numbers into agriculture is to equip the students in our Secondary Schools with a love of nature, with a sense of the dignity of manual labour, with the fundamental principles of agricultural science, and with a general capacity to embark on agricultural enterprises with intelligence and a fair prospect of success. This of course is not the same thing as asking for the conversion of every secondary school into an agricultural college, or an experimental farm. This is neither possible, nor desirable even if possible. The technical equipment for any profession or occupation could only be adequately acquired in technical colleges with special staffs and special organisation; and the number of such institutions must necessarily be small in any country. But what I plead for is that Government should require that the ordinary subjects of the secondary course—its English and its Geography, its Science and its Mathematics—should be taught with an eye to rousing interest in agriculture and bringing out their bearings on it.

For instance you could introduce a number of useful lessons on the farm and farm-practice in the English Readers, regard being always had to the environments of the pupils. The essays set week after week may ask for the boys' observations of nature and of the agricultural and horticultural doings around them. The Geography may be so taught as to bring home to the pupils the agricul-

tural achievements of other countries, and rouse discontent with the backwardness of our own farmers. Special emphasis, for example, may be laid on the loss to our country arising from the large exports of bone with its high manurial value, and on the large and profitable industries that are flourishing in Germany and America over the production on a commercial scale of artificial fertilisers. Or take your Science. In its elementary aspects it is chiefly nature study, which with some care can be made to take a distinctly agricultural bias. The Chemistry and Physics of our higher forms can be made to minister to the same end. Gravity can be illustrated as well by the irrigation channel on a neighbouring farm as by the mighty revolutions of the far-off planets: capillarity can be investigated in the action of water on loosened soil: the mechanical powers can derive illumination from the garden implements: the thermometer and barometer can as well predict the fate of your own field crops as find material for some mystic figures of the official meteorologist: the energising action of light and heat can be exemplified as well by your unambitious brinjal or tomato as by any recondite theories of the moon as it was or of the earth as it may be: chemical action may be as well illustrated by the operation of the air on the ploughed-up soil or of manures on plants, as by the orthodox legerdemain with flasks and test-tubes, retorts and spirit lamps. Or again take your Mathematics. The metre and the millimetre, the gramme and the kilogramme are no doubt very learned; but the cubit and the yard, the marcal and the maund are much more useful; and there is Arithmetic in both. Why teach square measure by papering walls or carpeting floors, which not one in a

thousand of your pupils will ever be called upon to do in after life? Rather let him reckon the trees to an acre or the manure to a cawnie of cultivable land. Why attempt the Rule of Three by tremendous problems based upon the infinities of the heavens, rather than by the more modest questions framed on acreages ploughed or areas mown? Rather than explore the cubical contents of Cheops' pyramid or the pillars of Hercules, measure the farmer's hay rick or his homely rice basket. Instead of confining Geometry to the delights of the *pons asinorum*, apply it to the mensuration of the *rayath's* fields and lands. Indeed, Mr. Editor, the number may be multiplied indefinitely of the points of contact which a thinking teacher could discover between the ordinary subjects of the Secondary curriculum and agriculture. Such teaching, I claim, is not converting our secondary schools into farmer's schools. This method of teaching, while securing the necessary agricultural flavour in our pupils' knowledge and training, will also meet all the ends of a general higher education.

There is another reason—and to my mind a weighty one too—for the course I have ventured to suggest. Under the scheme as proposed, every student will leave with a certificate of some sort or other. This would mean to the thoughtless student, and often also to his more thoughtless parent, that the holder of the certificate had some sort of claim on Government service or on Government patronage in some fashion. And when this does not come—as in justice it should not come to many—discontent shows its head and in its wake come so many other evils. Should, therefore, our education breed in the certificate-holder a love of the country and a taste for country occupations, together with a confidence

in himself born of his agricultural knowledge and training, many will drift into this walk of life and will have no occasion to wax wroth over a profitless certificate or a hard-hearted Government. Agriculture will be profited and the problem of the unemployed largely solved.

C. T. PARTHASARATHY MUDALIAR.

SIR THOMAS BROWNE.

SIR Thomas Browne was born in London in 1605, and was educated at Oxford. He travelled abroad, and, on his return, published the *Religio Medici* which made his name famous, but left his orthodoxy questionable. He settled at Norwich where he had a very extensive practice, and married in 1641. In 1646 appeared his *Inquiries into Vulgar and Common Errours* and in 1658, his *Urn-burial* to which was added the *Quincunxial Lozenge*. These were all the tracts he published, the rest being posthumous works, of which the *Christian Morals* is the most remarkable, comprising several identical passages contained in the "letter to a friend on the death of his intimate friend" published by the author's son in 1690. Browne was knighted in 1671 by Charles II, and lived in high reputation till his death in 1682.

Two serious charges have been brought forward against Dr. Johnson's treatment of Browne in his "Lives." In the first place, Dr. Johnson has been accused of having written his sketch of Browne in the vein of an *Advocatus Diaboli*. This is rather strong language and exceeds the bounds of good taste. Johnson's "Lives" forms a very valuable piece of criticism of life and literature, and have extorted praise even from such a fastidious critic as Matthew Arnold. Praise

from Arnold is praise indeed! Now let me quote from Johnson's summing up on Browne:—

"But it is not on the praises of others, but on his own writings, that he is to depend for the esteem of posterity; of which he will not easily be deprived while learning shall have any reverence among men; for there is no science in which he does not discover some skill, and scarce any kind of knowledge, profane or sacred, abstruse or elegant, which he does not appear to have cultivated with success."

Not only does Johnson speak of Browne in this generous strain, but he takes considerable pains to argue at some length the question of his orthodoxy, and replaces him among the "most zealous professors of Christianity." Surely, this is not to play the rôle of the Devil's Advocate!

The other charge levelled at Johnson is that he betrays a want of humour in his explanation of the origin of the publication of the *Religio Medici*. It is curious that it is not want of humour that Johnson here exhibits, but the very opposite of it, a superabundance of that saving quality, the faculty which pries into the secret springs of the human heart and lays bare all the Protean manifestations of that common vice of self-deception. Johnson's capacity for humour was greater than many of his detractors—and even admirers—suppose. I may be permitted to give an instance of it from his very sketch on Browne. With an archness that is delightful, he points out the inconsistency between Browne's self-avowed depreciatory sentiments on the institution of marriage and his succumbing to its influence at last, and he does it in the following inimitable manner:—

"This marriage could not but draw the

raillery of contemporary wits upon a man who had just been wishing in his new book "that we might procreate like trees, without conjunction" and had lately declared that "the whole world was made for man, but only the twelfth part of man for woman," and that "man is the whole world, but woman only the rib or crooked part of man."

And his speculation on the motives of acquiescence on the lady's part is no less adroit:—

"Whether the lady had not yet been informed of these contemptuous positions, or whether she was pleased with the conquest of so formidable a rebel, and considered it a double triumph, to attract so much merit and overcome so powerful prejudices; or whether, like most others, she married upon mingled motives, between convenience and inclinations, she had, however, no reason to repent....."

The justice of Johnson's treatment of Browne having been vindicated, and his sense for humour established, I shall now briefly examine the character of Browne's writings. The *Religio Medici*, though it made him soon famous, does not definitely and clearly express his religious convictions, so that it is not surprising that he was variously regarded as Papist, Protestant, and even as Atheist. The antiquarian and superstitious spirit with which he pursued the study of trifling and useless subjects such as *Urn-burial* and the *Quincunx* only serve to repel normally constituted minds with nobias towards such investigations. The work which shows Browne at his best is his *Christian Morals*. A critic has failed to notice in this work the same vividness in tone and colour which he claims for Browne's earlier works. It may be stated that what the work loses in these respects is more than

compensated by the universal interest of the subject he deals with, and the clearness and force with which he treats it. "The consciousness of the public eye" from which this work is said to suffer is really a virtue and not a defect: it is a mark of courtesy that every reader has a right to expect at the hands of any conscientious author whom he honours with his attention.

Before I go to speak of the *Christian Morals*, I shall make an attempt to account for the apparently inexplicable nature of Browne's mental constitution. Not only was Browne a type of the highest learning and culture of his time, but he was a striking representative of the transition in the modes of feeling and thinking, from the rapturous enthusiasm of the Elizabethan period to the level-headed common sense of the 18th century. He shook off the traces of the former influence and felt the new sooner than his contemporaries, and so he was a puzzle to his own generation. The tendency to give predominance to the senses and the understanding, so characteristic of pagan morality, was also the distinguishing mark of the 18th century, and in Browne there are to be found unmistakable signs of this transition, and the curious blend of natural and revealed religion which his *Religio Medici* exhibits is a necessary product of this influence. But it is important to note that Browne is not severely and coldly intellectual as were the eighteenth century poets and thinkers. There is a fervour and emotion in Browne's writings which breathes of the Elizabethan atmosphere, and proves that he had not wholly escaped from that spirit which is characterised by the sway of the heart and the imagination. He felt, with the 19th century poet, that man was not wholly brain, a mere magnetic mockery. The truth is, as

Matthew Arnold says, human nature is neither all senses and understanding, nor all heart and imagination; we must perforce balance the one by the other; it is as possible to overpass the measure of spiritualism as of sensualism; we must live by the *imaginative reason*. It is because Browne appeals to this *Zeitgeist* that he is modern, intensely modern. It is by the predominant display of this faculty of the imaginative reason that Browne claims and deserves our attention.

What is Christian morality? Is it an improvement on pagan morality or a degeneration of it? This is far too complicated a question to discuss within the limits of this article, but I may mention that two great thinkers like Mill and Matthew Arnold differ materially on this point. Mill says: "Christian morality is in great part merely a protest against paganism; its ideal is negative rather than positive; passive rather than active" and he observes that in certain "most important respects, it falls far below the morality of the ancients." Arnold considers the question, curiously enough, from the utilitarian standpoint, and decides in favour of Christian morality. He says in effect that reason and faith alike lead to salvation, the one by the path of perfect knowledge, the other by the path of perfect obedience; that the one is for the thinker, and the other for the multitude." Still Arnold would lay stress on emotion or inspiration as being of great value, and he observes that the Christian religion manifests this inspiration with "unexampled splendour." I may be pardoned for saying that other religions also manifest it in an equal degree. The enkindling of this inspiration has been the work of Sri Ramanuja as well as of St. Paul.

The world is being constantly flooded with

writings on morality, an "eternally used topic," yet but few survive the test of time. The reason is that so few have in them the universal note which is the necessary condition of immortality. Most of them are taken up with half truths and seeming truths; they apply only to local and temporary conditions; they appeal to passing prejudices." It is this spirit of narrow provincialism that alienates perennial interest and even sympathy. Only a philosophical spirit of dealing with morality will ensure for a work the continued attention of thoughtful men of all countries. Browne's cosmopolitanism is of such a nature:

"'Tis hard to find a whole age to imitate, or what century to propose for example. Some have been far more approvable than others; but virtue and vice, panegyrics and satires, scatteringly to be found in all. History sets down not only things laudable but abominable, things which should never have been or never have been known; so that noble patterns must be fetched here and there from single persons rather than whole nations, and from all nations rather than any one."

This is probably why his manner offended people who had not been taught to think for themselves, but to think like other people. Again, in the following passage we have an indication of the spirit that was to dominate the eighteenth century:—

"Let right reason be thy Lycurgus, and lift up thy hand unto the law of it; move by the intelligences of the superior faculties not by the rapt of passion, not merely by that of temper and constitution. They who are merely carried on by the wheel of such inclinations, without the hand and guidance of sovereign reason, are but the automaton part

of mankind, rather lived than living, or at least underliving themselves."

Butler observes that "endeavouring to enforce upon our minds a practical sense of virtue, or to beget in others that practical sense of it which a man really has himself, is a virtuous act." The *Christian Morals* is full of such "endeavouring." I shall quote a few passages, partly by way of illustrating Browne's beauty of thought and expression, and partly as an incitement to my readers to study the work for themselves.

Against Mammonism, the besetting sin of the present age, which threatens to destroy all that is noble in human nature, he has this warning:—

"Trust not to the omnipotence of gold, and say not unto it *Thou art my confidence*. Kiss not thy hand to that terrestrial sun, nor bore thy ear unto its servitude. A slave unto mammon makes no servant unto God. Covetousness cracks the sinews of faith, numbs the apprehension of anything above sense and only affected with the certainty of things present, makes a peradventure of things to come, lives but unto one world nor hopes but fears another, makes their own death sweet unto others, bitter unto themselves, brings formal sadness, scenical mourning, and no wet eyes at the grave."

Pleasure is to be our recreation, not our profession, a truth which the present age is in danger of forgetting:

"Punish not thyself with pleasure; glut not thy sense with palative delights; nor revenge the contempt of temperance by the penalty of satiety." Again, "Make pleasure thy recreation or intermissive relaxation, not thy Diana, life, and profession. Voluptuousness is as insatiable as covetousness. Tranquil-

lity is better than jollity, and to appease pain than to invent pleasure. Our hard entrance into the world, our miserable going out of it, our sicknesses, disturbances and sad rencounters in it, do clamorously tell us we come not into the world to run a race of delight, but to perform the sober acts and serious purposes of man; which to omit were foully to miscarry in the advantage of humanity, to play away an uniterable life, and to have lived in vain."

And so on through the whole gamut of vices of all sorts and shades. His tender regard for the virtues is as fervent as his indignation at the vices is strong. Generosity he inculcates as a duty. We are not to question like Shylock, "Is it in the bond?"

"Let not the law of thy country be the *non ultra* of thy honesty; nor think that always good enough which the law will make good. Narrow not the law of charity, equity, mercy; join Gospel righteousness with legal right; be not a mere Gamaliel in the faith, but let the Sermon in the Mount be thy *Targum* unto the law of Sinai."

His trumpet call to labour is as clear and as serious as Carlyle's.

"Since thou hast an alarm in thy breast, which tells thee thou hast a living spirit in thee above two thousand times an hour, dull not away thy days in slothful supinity and the tediousness of doing nothing. To strenuous minds there is an inquietude in over-quietness and no laboriousness in labour; and to tread a mile after the slow pace of a snail or the heavy measures of the lazy of Brazil, were a most tiring penance, and worse than a race of some furlongs at the Olympics."

A mind like Browne's cannot but delight in the habit of introspection which he recom-

mends. It is this faculty which breaks out in passages like the following:—

"Again, the practice of men holds not an equal pace, yea, and often runs counter to their theory: we naturally know what is good, but naturally pursue what is evil; the rhetoric wherewith I persuade another cannot persuade myself. There is a depraved appetite in us that will with patience hear the learned instructions of reason, but yet perform no farther than agrees to its own irregular humour."

In short, Browne has wise counsel for the best of us. His keen and profound observations on the various virtues and vices, on studies, on criticism, on judgment, his moral reflections on life, its follies and its imperfections, its promises and its glories, his philosophical meditations and consolations,—these are the best part of the inheritance he has left to distant posterity. In these days there is greater need than ever to direct our thoughts upon teachings such as his. And what Matthew Arnold says of the *Imitation* of Thomas à Kempis, may with equal truth be applied to the *Christian Morals* of Sir Thomas Browne:—

"These are moral precepts, and moral precepts of the best kind. As rules to hold possession of our conduct, and to keep us in the right course through outward troubles and inward perplexity, they are equal to the best ever furnished by the great masters of morals—Epictetus or Marcus Aurelius."

C. SUNDRIER.



MATHEMATICS.

[Conducted by B. KRISHNAMACHARI, M.A.]

T. SUNDARA RAO, B.A., points out that the figure on page 213 of the *Educational Review* for June 1908 is the graph of Euler's formula $\frac{\sin 2\theta}{2\theta} = \cos \theta \cos \frac{\theta}{2} \cos \frac{\theta}{2^2} \cos \frac{\theta}{2^3} \dots$ ad inf. (vide his *Geometrical Exercises* in Paper Folding, p. 58), and that the first figure on page 214 is the graph of the formula

$$\left(1 - \frac{\theta^2}{2} + \frac{\theta^4}{4} - \frac{\theta^6}{6} \dots\right)^2 + \left(\theta - \frac{\theta^3}{3} + \frac{\theta^5}{5} \dots\right)^2 = \cos^2 \theta + \sin^2 \theta = 1.$$

A graphical method of finding the square root of any commensurable positive quantity n , odd or even, integral or fractional, which follows from Euclid I. 47 is suggested by V. RAGHUNATHAN. He proceeds thus:—

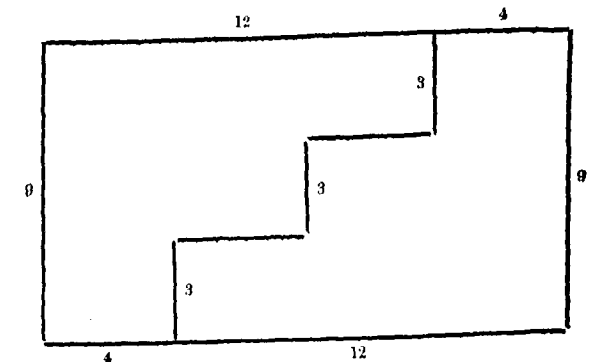
$\left(\frac{n+1}{2}\right)^2 - \left(\frac{n-1}{2}\right)^2 = (n)^2$. Construct a right-angled triangle ABC having the angle at C a right angle, $AB = \frac{n+1}{2}$, and $BC = \frac{n-1}{2}$. [As n is given, $\frac{n \pm 1}{2}$ can be found out graphically.] In this triangle the side AC represents $\sqrt{n}$. Similarly $\sqrt[2]{n}$ can be found out.

This method is rather troublesome as it requires a fresh triangle each time a square root has to be extracted. The graphical method given on p. 109 of the *Review* for March '08 is preferable. It can be also extended to find the $2n^{\text{th}}$ root of any number. We first find the square root, then the square root of this square root and so on n times. The number we arrive at last is the $2n^{\text{th}}$ root.

3. [KELA DEVA RAO, B.A., L.T.] A plank of wood is 16" long and 9" broad. Show graphically how it can be cut into two pieces which will fit the top of a box 12" square.

Solutions by T. SUNDARA RAO, B.A., N. VENKATA RAO, P. RANGANATHAN, B.A., V. NARASIMHAM, "N. S.," and M. S. SUNDARESWARAN.

The plank should be cut in the manner pointed out in the accompanying figure.

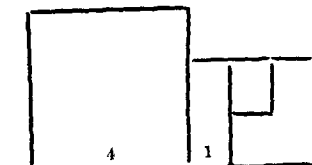


P. S. SUNDARAM AIYAR, B.A., L.T., and Y. K. SITARAMIAH obviously overlook the fact that the wood should be cut into two pieces only.

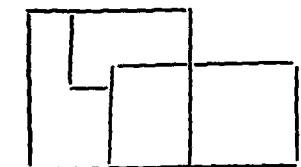
4. The problem as well as the solution has already appeared in the issue for August, '08.

Correct solutions are furnished by P. S. SUNDARAM AIYAR, B.A., L.T., and V. NARASIMHAM, B.A.

T. SUNDARA RAO, B.A., gives the solution

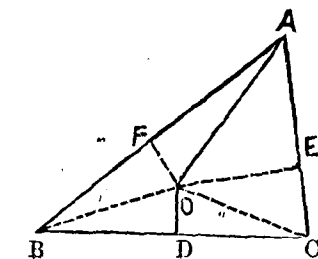


and "N. S." the one



but the one given in the issue for Aug. '08 is preferable as it proceeds on strictly geometrical principles. These illustrate however that there is not only one way but a number of ways of dissection.

5. [B. KRISHNAMACHARI, M.A.]. Point out the fallacy in the following demonstrations for proving every triangle isosceles.



i. If DO and AO do not meet, then they are parallel.

$$\therefore AB = AC.$$

ii. If they do meet, let it be in O. Draw OE, OF perpendiculars to AC, AB. Join OB, OC.

The triangles AOF and AOE are equal.

$$\therefore AF = AE.$$

Again the triangles BOF and COE are equal, for OF = OE and OB = OC.

$$\therefore FB = EC.$$

Adding AB = AC and therefore every triangle is isosceles.

Solutions by V. RAGHUNATHAN and M. S. SUNDARESWARAN.

In the first case there is no fallacy at all, for if AO is parallel to DO, AO must coincide with DO as it bisects the $\angle BAC$. The triangle is then really isosceles.

In the second case the fallacy lies in taking the intersection of the bisector of the angle BAC and of the line BC to fall within the triangle BAC.

6. [B. KRISHNAMACHARI, M.A.] If $\tan \alpha$, $\tan \beta$, $\tan \gamma$ be the three values of $\tan \frac{\theta}{3}$ obtained when $\tan \theta$ is given, prove that $\pi \sin(\beta + \gamma) / \sin 2\alpha = 1$.

Solution by M. S. SUNDARESWARAN.

$$\sin(\beta + \gamma) = \cos \beta \cos \gamma (\tan \beta + \tan \gamma)$$

$$\therefore \pi \sin(\beta + \gamma) / \sin 2\alpha$$

$$= \frac{\pi (\cos^2 \alpha) \cdot \pi (\tan \alpha + \tan \beta)}{\sin 2\alpha}$$

$$= \frac{1}{2} \pi \cot \alpha \{ \sum \tan \alpha \sum \tan \beta \tan \gamma - \pi (\tan \alpha) \}$$

$$\tan \theta = \frac{3 \tan \frac{\theta}{3} - \tan^3 \frac{\theta}{3}}{1 - 3 \tan^2 \frac{\theta}{3}} = k, \text{ suppose}$$

$$\text{then } \tan^3 \frac{\theta}{3} - 3k \tan^2 \frac{\theta}{3} - 3 \tan \frac{\theta}{3} + k = 0$$

$\therefore$ if $\tan \alpha$, $\tan \beta$, $\tan \gamma$ are the values of

$$\tan \frac{\theta}{3}, \sum \tan \alpha = +3k, \sum \tan \beta \tan \gamma = -3$$

$$\text{and } \pi (\tan \alpha) = -k.$$

$$\therefore \pi \frac{\sin(\beta + \gamma)}{\sin 2\alpha} = \frac{-1}{8k} \{ 3k \times -3 + k \}$$

$$= \frac{-1}{8k} \times -8k = 1.$$

7. [B. KRISHNAMACHARI, M.A.] If the sum of two opposite angles of a quadrilateral of sides a, b, c, d in which a circle can be described is a right angle, show that the radius

$$\text{of the circle is } \frac{\sqrt{2abcd}}{a+b+c+d}.$$

[The radius appeared originally by oversight as $\frac{2\sqrt{2abcd}}{a+b+c+d}$ instead of as $\frac{\sqrt{2abcd}}{a+b+c+d}$.

Solution by M. S. SUNDARESWARAN and P. RANGANADHAN, B.A.

The area of any quadrilateral

$$= \sqrt{(s-a)(s-b)(s-c)(s-d) - abcd \cos^2 \alpha}$$

$$\text{where } 2s = a+b+c+d$$

and 2α = the sum of two opposite angles.

In this quadrilateral, $a+c = b+d$, for it is circumscribed about a circle, and $\alpha = \frac{\pi}{4}$ for

$$2\alpha \text{ is given } = \frac{\pi}{2}.$$

$\therefore$ the area of the quadrilateral

$$= \sqrt{abcd - abcd \cos^2 \alpha}$$

$$= \sqrt{\frac{1}{2}abcd}$$

But the area of the quadrilateral is also equal to $\frac{1}{2}r(a+b+c+d)$ where r is the radius of the $\odot$

$$\therefore \frac{1}{2}r(a+b+c+d) = \sqrt{\frac{1}{2}abcd}$$

$$\therefore r = \frac{\sqrt{2abcd}}{a+b+c+d}.$$

V. RAGHUNATHAN sends what may be called an analytical proof, i.e., he assumes the equality stated and proves the truth of it. But such a proof is not to be preferred in questions of this kind.

QUESTIONS FOR SOLUTION.

8. [B. KRISHNAMACHARI, M.A.]. The straight lines EAB, EDC, and FDA, FCB form four triangles in one plane: O is the common point of intersection of the circles circumscribing these triangles: prove that the rectangle contained by OA and OC is equal to the rectangle contained by OE and OF.

9. [B. KRISHNAMACHARI, M.A.]. Find a general solution of the equations $x^2 + y = a$, $x + y^2 = b$.

10. [V. RAGHUNATHAN]. In the dissection proof of Euclid I. 47 given for Question 4, cut the wood into two pieces only so as to fit into a square of side 5."

11. [V. RAGHUNATHAN]. Prove by elementary methods that the line of quickest descent from a point A to a point B is the arc AB of a cycloid.

12. [M.B.]. ABC is a triangle and O is a point. AO, BO, and CO are joined and produced if necessary to meet the opposite sides in X, Y, and Z. If OX, OY, and OZ are equal to one another, show that the perpendiculars to the sides BC, CA and AB at X, Y, and Z respectively meet in a point. Show

$$\text{also that } \frac{1}{AX} + \frac{1}{BY} + \frac{1}{CZ} = \frac{1}{OX}.$$

13. [M. KANNAN, B.A., L.T.]. If a series of circles be described touching a given circle and a fixed diameter of it, shew that

(i) the polars of the centre of the given circle with respect to the series of circles envelope one of two fixed circles;

(ii) the polars with respect to the series of circles of an extremity of the fixed diameter pass through one of two fixed points.

14. [M. KANNAN, B.A., L.T.]. Shew that each of the four radical centres of the inscribed and escribed circles of a triangle taken three and three is the orthocentre of the triangle formed by the other three.

THE SCHOOL FINAL CERTIFICATE SCHEME.*

It is a fact generally admitted that the present Matriculation examination has failed to be a satisfactory test whereby those who deserve the hall-mark of success in Secondary Education may be separated from those who do not deserve it. From amongst pupils who are pushed out year after year as having failed it is possible to select a large number, who but for the rule regarding the minima for a pass would be found very well fitted for a higher course or to begin life in those walks which require a successful completion of the Secondary School course, whereas from amongst those who have passed, a similar number can be selected who do not quite look like young men who have had a successful school career. Referring to this unsatisfactory aspect of the Matriculation examination, the Committee appointed to consider the School Final Scheme says "A study of the University Matriculation mark-books reveals the fact that an enormous number of candidates come out near the border line between "pass" and "failure." We fear that a large number of school pupils aim at little more than to do just sufficiently well to cross the border line; at any rate having done so whether at the first, second, third or even a subsequent attempt, they have hitherto, with the exception of the remarkably few who pass in the first class, been ranked for all purposes as of equal merit and have been equally admitted to the privileges attaching to a Matriculate. There is, moreover, very little difference between a large number who pass and a large number who fail." In addition to this, there is another reason for its failure—that it has given room for bitter complaints by the poor returns of passes, so much so, that even in the years when we have had bumper harvests the percentages did not ex-

* A lecture by Mr. A. Panchapagesaiyar, M.A., L.T., at a meeting of the South Indian Association, held in the Ranade Hall, Mylapore, on the 20th August 1908, under the presidency of the Hon'ble Mr. P. S. Sivaswami Aiyar, C.I.E.

ceed 40. The oft-repeated tale of abnormal failure has been harrowing indeed as the result of which, the public mind has of late begun to long for some radical changes in the present system which could ensure a more satisfactory scrutiny. It is needless to say that the percentage of failure reached its highest water-mark last year, which drew the attention of His Excellency to the present deplorable state of things in connection with Matriculation which made it an imperative necessity to make a large departure from the present Matriculation system. With a view to conduct an examination on improved lines Government formulated a scheme for the purpose of conducting an examination of their own, known as the School Final Examination, and appointed a Committee of experts with the Director of Public Instruction as its President to consider the scheme for the purpose of a report.

The Committee met at Ootacamund and had sittings from the 19th to the 29th May, '08 with the exception of the intervening Sunday and submitted a report which was published in the Fort St. George Gazette in its issue of the 14th July last. On the receipt of the report Government in their G. O. No. 510, Educational, dated 9th July, '08, have called for suggestions from the Syndicate of the University of Madras, the Missionary Council of Aided Education, the Council of Native Education, the Madras Teachers' Guild, the non-official members of the Legislative Council and from other gentlemen and societies that may be interested in the scheme, provided that they are received on or before the 1st September 1908.

It was the object of Government that the School Final Examination should embrace a wider range of studies than the Matriculation examination and should be on five compulsory subjects and on any two of a group of about nine optional subjects. A pass in this examination was to be insisted on for entrance into public service. Matriculation examination was no more to receive recognition for purposes of Government service; but if the Senate of the University

would have no objection, they might replace Matriculation by the School Final Examination either in whole or in part. The compulsory group as it stood in the original scheme included Arithmetic, English, the Vernacular, History of India and General Geography of the World, and Elementary Physics, and the optional group contained, among others, an additional language, History of England, Chemistry, Mensuration and Practical Geometry, Book-keeping, Commercial Arithmetic, Correspondence and Geography.

This scheme did not commend itself to the School Final Examination Committee, because, in the view of the Committee, it would be only another Matriculation with but a change in the name. With the privileges attaching to it, it would replace Matriculation but the scheme and conduct of the examination being more or less similar, there would be the same small list of passes and a large list of failures as heretofore, and in short the net result from an educational point of view would be practically nil.

To avoid the evils of a public examination, the Committee have formulated a scheme which combines in itself an examinational value but at the same time does not leave out of account the school work of the pupil. By a wholesome combination of the school work of the pupil and the results of a public examination the evils of an examination alone as a sole test of a pupil's attainments are sought to be avoided. The scheme of the Committee involves much more radical changes than contemplated in the original Government notification, but the Committee is of opinion that the scheme, as now proposed, will be welcomed by all concerned and be considered by His Excellency the Governor in Council as worthy of trial. The following is a summary of the scheme as submitted by the Committee.

To begin with, it is held by the Committee that the present Matriculation examination must be replaced by a scheme which should devise a test capable of giving greater information about the candidate's attainments than the present Matriculation certificate and of avoiding

all the drawbacks attendant on a public examination conducted on the lines of the University Matriculation examination. This object cannot be attained by a mere examination held at the end of a pupil's school year. To make this object significant it is proposed that the term 'School Final Examination' should be substituted by the term "School Final Certificate." The latter name is preferred as the certificate is not intended to speak of a mere pass of a candidate as *hitherto in vogue* but to be a statement of the candidate's capabilities by means of his class marks to be mentioned in the certificate and the marks secured by him at a public examination to be held at the end of his school course. A school pupil on entering the Fourth Form is to be supplied with a blank certificate in which the marks obtained by him in the various school examinations are to be entered. This certificate should be kept in the school or schools in which the pupil happens to study until he reaches the end of his school course in the 6th Form, when, along with his application for the School Final Examination, the certificate showing the school marks will be sent up to the Secretary to the School Final Examination Board. As it is likely that there will not be uniformity of standard or in the method of marking observed in various schools, the school marks are to be moderated by the Board so as to come down to the level of the marks got by the candidate in the public examination. In this way uniformity of standard is to be attained. There is to be no publication of the list of passes as we have it in connection with every public examination. A certificate known as the School Final Certificate is to be granted by the President of the School Final Board which should contain in it the marks obtained in the public examination and the school marks moderated to the level of the public examination marks. Nothing will be said to show whether a candidate has passed or failed. This certificate, the candidate, should keep with him as a record of life-long value to be produced whenever there may be a need for it. For instance it will have to be shown to the head of a college which the pupil may desire to

join for a higher course or to the head of an office or any establishment in which he may desire to be employed. After reference to the marks in the certificate and the entries regarding conduct, the head of the college or the establishment is either to grant or refuse admission to the applicant according as he finds him fit or not for the work that lies before him in the light of the facts revealed in the certificate. Should the candidate not be satisfied with the results in one or more subjects, either of study or of examination, he is allowed the option of joining a recognised school and of re-appearing for the examination any number of times. No provision is made for private candidates in this scheme. The certificate is to be granted only to the school pupils who have attended the Fourth, Fifth and Sixth Forms for not less than 60% of the working days in each term and for not less than 120 working days in the school year. If a pupil were not to be promoted at the end of a school year the entries of marks made during the year are not to be included in the school marks to be moderated for the purpose of the School Final Certificate. Three groups of subjects are given of which those contained in Group A are compulsory subjects in which there will be a public examination, those contained in Group B are also compulsory subjects, but in which there will be no public examination, the school marks only being taken into account, while the subjects comprised in Group C are optional subjects of which a pupil may select one or more for the purposes of his study. As in the subjects comprised in Group B, there will be no public examination in one or more of the optional subjects the candidate desires to take up. The compulsory examination subjects are English, Arithmetic and Vernacular Composition and Translation. The compulsory non-examination subjects of Group B contain Geography, Science, Drawing, Physical Training, and Domestic Economy and Needle-work (for girls). The non-examination optional group consists of a large range of subjects into which are included classical languages, foreign languages, Indian vernaculars and a good many other subjects, such as Histories of

England and India, Algebra and Geometry, Practical Mathematics, Trigonometry, Book-keeping, Commercial Arithmetic and so forth. There are other details also connected with this School Final Scheme into which it is needless to enter for the purpose of this meeting.

Such in the main is the sketch of the new scheme. The Committee in their report say that one of their main objects was to prevent public examination from dominating the school work. In the words of the report, "The ideal system would be that any examinations to which the pupil may be submitted as a condition of the award of the certificate should be held in 'situ' in each school, the examination should be largely oral in character, and should be conducted by the staff in collaboration with the Inspector and a member of the Central Board." As the Committee believe that the difficulties in the way are prohibitive they have had to devise a scheme that fairly enough meets this end by taking into account the school work of the pupil and the results of a public examination in certain compulsory subjects.

It will readily be admitted that the scheme possesses good many admirable features and as such must commend itself to all who have the well-being of the school-going population, now and yet to come, at heart. These features are: (1) It avoids the evils of a public examination, the most prominent of which is the annual slaughter of an over-whelmingly large number of candidates. (2) The most striking feature of the system is the absence of any attempt to declare whether the candidate has passed or has not passed. This, in the words of the *Madras Mail* contained in the thoughtful leader of the issue of July 16, under the heading: "'An Educational Reform' is indeed a valuable feature of the proposals, for, if this scheme is adopted, it will no longer be possible to herd together as equally qualified those students who have passed the Matriculation examination with a respectable margin and those who have just obtained the minimum required for a pass. It is the curse of that examination system that while 20 or 30

marks more or less establish no distinction between candidates who have done fairly well, they fix a great gulf between successful and unsuccessful candidates. Instead of grading, there is a dead level and then an immense drop, though it is often a matter of luck whether a candidate finds himself just on the plateau or at the bottom of the abyss." (3) It enables a candidate to show the percentage of marks obtained by him to the head of an establishment or a college to distinguish between applicants of varying degrees of attainments so as to avoid the admission of a less capable candidate when a more capable one is available. (4) It provides facilities for the admission of a student into a college for the F.A. course, though he may be weak in certain subjects provided he shows proficiency in certain others which he desires to take up for the higher new F.A. course. (5) The school-mark record is a valuable record for reference to enable the parent to attend to the rectification in his son of the defects brought out by the record. (6) It places before the headmaster valuable and reliable information to base the promotion of a pupil on almost the sure grounds of correct information. (7) It gives a hold to Inspectors to check indiscriminate promotions where such an evil is found to exist. (8) As the record is to be one of life-long value it will give an impetus to systematic exertion on the part of the pupil and will also act as a sure antidote to the mania so often exhibited by good many parents for class promotion of their boys. (9) The provision in the certificate for information regarding physical training and conduct is significant as also the fact that manual training should be made compulsory in schools. Of the above provisions, that, bearing on physical and manual training is very useful, for lack of which good many of our school boys are not able to exhibit robust health at the end of their school or college career and become unable to earn any livelihood worth the name being unable to use their hand for any useful mechanical work that requires such training. As the Hon. Mr. V. Krishnaswami Aiyar the other day observed, much of the discontent of disappointed youths will substantially disappear if some-

thing can be made of our school boys during the period of their pupilage by enabling them to earn an honorable and independent livelihood. And to secure this important end manual training should be made an indispensable provision in schools.

Of the above nature are the commendable features of the proposed School Final Scheme but it is not without its defects, some of them of a serious nature. The most prominent of the defects is that in its main feature it defeats the main object for which it was formulated. The Committee set before itself as its primary object not to allow the results of a public examination to dominate the school work so as to allow of no provision for the recognition of the latter in granting certificates to candidates, but, unfortunately, by the proposed moderation system it is the examination that is recognised as the most dominant factor. Speaking of this aspect of the School Final Certificate, the *Mail* article, already referred to, says "Whenever there is a discrepancy between the school and public examinations, the results of the latter will be used to alter the former and in this way much greater weight will be given to the public examination than to that held in the school. But it is one of the main objects of the scheme to make school work of more account and it is rather a paradoxical method of attaining the object to alter the results of the school examination till they harmonise with the public examination results."

The scheme is almost an ideal under the present circumstances and if it can be worked out without abuse of any kind, without allowing prejudice of any description to creep in and in all sincerity so as to secure a common standard for all schools, it will, in fact, be the test which cannot be replaced by any other. Supposing that intelligent rules will be framed and the teaching profession will co-operate with the department, as they are bound to do, to reduce to a negligible minimum all possible human weakness in the working of the system, yet there is the almost insuperable difficulty of securing a uniform standard. Adverting to this point, the Committee's report itself says "We have not overlooked the fact that

different head-masters may set very different standards and that there may even be unfair treatment of individual pupils. The latter will we hope be few in number and they will in all probability come to light. To ensure a reasonable uniformity of standard the opinion of the head-master will be expressed by means of marks, and these marks will be "moderated" by the marks awarded at the public examination. In this way it will be possible to place the pupils of different schools upon a common footing." The magnitude of the difficulty, it appears to me, has not been sufficiently realised and I am at one with the *Madras Mail* in its view that "this objection, if not overlooked, has been very airily dismissed."

We have ample evidence before us that different schools aim at different standards as shown by the public examination results, the reports of Inspectors, and the differing character of the attainments of pupils coming from different schools. With such want of uniformity in schools it will be to misguide the public to attach a value similar to the examinational value to school marks. Instances have been witnessed of the pupils of inferior schools sinking into insignificance when they join a school which has brilliant materials. The class marks awarded to the best pupils of an inferior school may often be much higher than those secured by even an average pupil of a good school, though in point of attainments the latter may be decidedly superior to the best in a bad lot. How can we treat as of equal value the mark-records of two such schools? This is only one of the many possible cases showing the objectionable feature of the proposed school mark system but I do not think it necessary to dwell at length on this defect which is too patent for a lengthy discussion.

The certificate does not show whether a pupil has passed or not. The information about 'pass' or failure is avoided to give officers and heads of colleges large discretionary power in the selection of suitable candidates. I admit there must be room for the exercise of discretion but it is likely that there may be individual hard-

ships by mistakes being committed. Government will have to frame rules for the guidance of officers so that mistakes may be avoided, and discretion may be exercised with wisdom and impartiality free from all chances of individual vagaries.

The provision made for entries regarding the conduct of the pupil is good in the ideal but difficult of adoption as a reliable basis for inference as to the character of the future man. Being a matter of opinion it is likely that herein too mistakes may often be committed. While a pupil is at school for the formation of character, it would appear unreasonable to regard entries of character at this stage as giving a correct idea of his character in the future years of his life. To use an analogy, it would appear as though an attempt was made to put down an unbroken horse for a bad animal on account of its wildness while being broken and for this reason to dismiss him as of no use for any practical purpose.

Instances have been good many of wildness and even refractoriness in schools being regenerated into model characters in later life. Teachers having to come in close contact with pupils, there is room for individual likes and dislikes to crop up. Even a parent who is expected to show equal love to all his offspring is no exception to this human weakness. He loves some in preference to others for which he finds it difficult to assign any reason. Boyish pranks are apt to be put down for bad conduct. The dread of a black mark is apt to take away from manly straightforwardness, cheerfulness and geniality of temperament which are the essential elements for the formation of character. These are some of the objectionable features of the provision for entries regarding conduct. At the same time it must not be overlooked that it has good disciplinary value. By all means retain the provision but do not abuse your power. It would be wrong to make subtle ethical distinctions in the entries between the character of one pupil and that of another. Except in the case of persistently bad natures, let the conduct of all others be entered as 'good.'

Another defect in the scheme is that there are good many subjects such as Science, Histories, Algebra and Geometry in which there will be no public examination, the school marks alone being taken into account. It is true that knowledge of these subjects is not quite essential for the ordinary requirements of public service. But I fear that when there is to be no public examination they are apt to be neglected in schools and to receive that indifferent step-motherly attention that is at present shown to the non-examination subjects such as Drawing and Physical training. That a school should acquit well in the public examination would be the aim and for this purpose a greater portion of the legitimate share of attention to be devoted to the non-examination subjects will be withdrawn from them for additional work in the compulsory examination subjects. It will be sometime for the examination mania to leave us and until then it may be undesirable to assign to the former a subordinate position in the subjects of school study.

There is one more point to which I would like to refer but with much misgiving. It is in connection with the subordinate position that is assigned to Sanskrit. The position of Sanskrit was materially weakened by the inclusion of the language in an optional group of subjects and by Vernacular Composition being made compulsory on all candidates for F.A. By confining the compartment system to other subjects, Sanskrit and a Vernacular language should have been made a compulsory second language up to F.A. at least. But that is another matter. It will be to complete the ruin that is threatening Sanskrit to adopt the School Final Scheme as it now stands in reference to the language. A working knowledge of the Vernacular being made compulsory, no parent, I believe, will, in the best interests of his boy, advise him to take up a language in addition to the Vernacular which as a matter of course he will have to study to prepare for the Vernacular and Composition paper. It is natural to believe that a boy by devoting his sole attention to the study of the Vernacular can do much better in Vernacular

Composition and Translation than otherwise. Of course Vernacular gains but at whose cost? This fact is probably not sufficiently recognised.

The scheme provides for Sanskrit a place side by side with Latin or Greek. It is not to know the significance of Sanskrit in this country to assign to it the position that it takes in the scheme. It is the language that has largely influenced the vernaculars and, consequently, to study Sanskrit would be to know the vernaculars better. It is the spirit of its literature that enters and operates on the very life of the nation. In it is embodied all the religion and philosophy of the Hindu nation. For these and many other reasons it is a language of national importance. It presents a vast field for antiquarian research. From it can be unearthed many facts of the past history, science and philosophy, not hitherto known. It is of invaluable use to foreign agencies such as the Missionary bodies to know the inner life of the nation. It is wrong to place such a language side by side with Latin or Greek, which, even to Europeans, has only a literary or antiquarian interest. It is an admitted fact that our Presidency is behind its sisters in oriental research. It is only of late that there was a revival of the study of Sanskrit in this Presidency. We were beginning to have intelligent scholars capable of original research. Original works in prose and verse were begun to be produced possessing classical charm, dignity and grace. But, if the present educational reform, otherwise very good, were adopted, without safeguarding the interests of Sanskrit, we shall in a few years have undone what we have hitherto done and the future generations will be deprived of an invaluable legacy helping in the building of character and cultivating a right sort of patriotism consistent with loyalty and devotion to truth and God. Surely it is unpatriotic to say "I shall have nothing to do with an old world dead language."

I desire it to be understood that I am one of those who were lamenting the neglect by our students and grown-up men of the vernaculars of our Presidency. I hail with joy the inclusion of a working knowledge of the vernacular as a

compulsory subject of study and of examination but at the same time I believe it will be no material hardship to make Sanskrit a compulsory non-examination subject. Should this be done, it would be to provide facility for the taking up of the language branches for F.A. by those who wish to qualify in languages. I beg to invite your special attention to this important subject. It is a defect in the new scheme which must be remedied.

Some of the defects of the new School Final Scheme are of the nature detailed above. Because of these defects I do not mean to say that it is not worth a trial. It has good many admirable features that do not deserve to be lightly overlooked. The mark-record system suggested in the new scheme was luckily forestalled in the beginning of the current year in the P. S. High School, taking into view its manifold advantages, the chief of which being to secure the co-operation of the parent and to maintain a reliable record of the school history of the pupil from the beginning to the end of his school career. I am glad to say that I notice much more active co-operation of parents after the introduction of the Progress Book than before it. Though valuable when kept within the limits of a single school, the system will lose much of its value, if, without proper safe-guards, the record is made to take the place of a public examination and to be of life-long value as means to secure one's living. Keeping this fact in view, in my letter containing the suggestions to the School Final Committee, I recommended that the school mark record may be utilized for reference for the award of a pass on those candidates who are either a little above or a little below the border line in certain subjects, and on those, who, though having a brilliant school record have unfortunately failed in the public examination, which must have defects peculiar to itself being conducted on a stupendous magnitude. Just before the publication of the results a confidential communication may be made to the Headmaster of each High School containing information about the passes in the school and calling for communication whether there are cases of hardship in

the school. If cases turn up which require attention, they may be decided on the merit of the school record and marks obtained by the candidates concerned.

This was my original suggestion. After a perusal of the present scheme I am prepared to modify it in the following manner. As already observed the difficulty of bringing about uniformity of standard is a serious objection to the immediate adoption of the proposed scheme. I wonder whether the aim for a uniform standard can be at any time successfully achieved. On that account, the new scheme, excellent otherwise, should not be given up as unfit for trial. But do not forthwith bring it to force with the probable chance of having to give it up some years hence on account of its failure. For, the danger will be that, meanwhile, many fit and unfit young men will have joined the ranks of passed candidates. If the Government High School Examination and Matriculation were failures in one direction, the School Final Scheme may prove a failure in just the opposite direction. With such record and warning before us it is advisable to move forward with cautious steps on sure and tried grounds. My suggestion is that the recommendation I already made may at once be adopted and the mark record system be at once enforced. The value of the Progress Book system is so great that I would even recommend its enforcement from the earliest class of a school, though for the purposes of public examination, the mark-record, Fourth Form upwards, may receive recognition. If, after trial for two or three years to come under the operation of wisely framed rules, Inspectors are able to report on the satisfactory maintenance of the record on a generally uniform standard in the various schools of the Presidency, the scheme in its present form may be brought to force. Until then I suggest that the original scheme as drafted by Government may be brought to operation with the vagaries of the public examination being avoided under the curative effect of the mark-record system. By the adoption of this suggestion the weakness of public examinations is avoided and we also avoid taking a leap in the

dark. We have already learnt a bitter lesson by reforms hastily made and given up with equal haste. In our anxiety for reforms let us not take a long jump, not aware of what the result would be—whether we are going to land on *terra-firma* or to be engulfed into a mysterious abyss. In this, as in other matters, we will do well to bear in mind the old-world maxim but not the less valuable on that account “slow and steady wins the race.” If our schools should have improved so as to come up to a high level of efficiency and a uniform standard should have been generally secured, I would even go one step further than that contemplated for immediate adoption by the Committee and suggest that when the time is ripe the principle of each school having its own examination may be given effect to. If our schools progress at the same rate in which they do under the wise direction of the present staff of the educational department, it may not be impossible to achieve this end which is so much to be desired. In this, as in every other reform, it is caution that is so necessary to be observed. It is also necessary to suggest that candidates should not be subjected to two examinations, that conducted by Government to enter public service and that conducted by the University for the higher University course. Either the Matriculation examination must reform itself and stand or what is better, it must give way to the more comprehensive and, may be, the better conducted Government examination.

Gentlemen, I fear I have taken up too much of your valuable time. My only apology is the importance and seriousness of the subject. I hope Government will further discuss the subject with the help of some of those who were on the Committee and other expert educationists like the respected Chairman of this evening's meeting, the Hon'ble Mr. V. Krishnaswami Aiyar, Rao Bahadur M. Rangacharyar and professors and principals of colleges, both European and Indian, and pass the scheme so altered and improved that it may lead up to an ideal system in which none shall lose but all shall win. This I believe is the end and aim of all true education.

THE SCHOOL FINAL EXAMINATION.

[By A. PADMANABHA IYER, KARAMANAI,
TRIVANDRUM.]

It is almost a truism to say that Education ceases to be what it ought to be when it comes to have a commercial value attached to it. When students take to an examination simply with a view to obtain a means of livelihood by a pass therein, surely the idea is directly inimical to the interests of an advanced education where knowledge should be pursued for its own sake. It appears, therefore, as a mixing of issues when one and the same examination is intended to serve as a passport to minor appointments in Government service and to secure admission to the portals of a University. When a pass in an examination is the sole criterion of fitness for getting an honorable means of subsistence, there will, inevitably, be a scramble for a pass in the same; and, cram and other attendant evils of an ill-digested instruction will follow in its train. It should, therefore, be the highest aim of every Government not to allow its needs to pollute the springs of a true liberal education. It is, to a certain extent, true that a good deal is common to the two ideals and that it is not so easy to draw a line of demarcation between the qualities of head and heart necessary for the one apart from the other. But, at the same time, it is true that it is an amount of ready-made proficiency and knowledge of details that is required in one seeking service; while, it is an amount of mental preparation and culture that is in demand for a University career. Unless and until these aspects are clearly differentiated, the odium attached to the Entrance Examination of our Universities will continue. It is on a clear understanding of these two aspects of Education that the Madras Government instituted an Upper Secondary Examination a few years ago, to serve as a test for entrance to the lower ranks of the Public Service. But the Matriculation Examination was still allowed to have its market

value and the new Government examination aimed a little too high at the same time; and, hence, the failure of the scheme of the late Mr. Grigg's otherwise excellent in itself.

Picking up wisdom from their experience, the Madras Government have now come forward with a less ambitious scheme; and, the Committee appointed to discuss its details have sent in their report. This body with the Hon'ble Dr. Bourne, the Director of Public Instruction, as President, has gone into the question in all its aspects, and the scheme as prepared by them has now been published with a view to invite criticisms from individuals or bodies, interested in the subject. The School Final Examination or “The School Leaving Certificate,” as the Committee would have it, is primarily intended to serve the needs of Government or other employing agencies and not to satisfy the requirements of the University. If the University accepts the proposed test for itself, the result will only be the substitution of one examination for another and, in the words of the Committee, “the net result from an educational point of view will be practically nil.” The University is satisfied with a rough test of the candidate's fitness for higher studies. It only judges of his capacity to acquire a given amount of matter whatever may be the manner in which he might acquire the same. The proposed School Final Test, on the other hand, attaches great weight to a candidate's scholastic history for a period of three years just on the eve of his leaving school, insists on the staff of the school observing each individual with regard to his capacity, progress, conduct and character and assigning marks on each of these heads. Provision is made against the freaks of unscrupulous Head Masters by getting the marks assigned by them “moderated,” if necessary, by Inspectors or the Board of Examiners. The scheme so far seems to be unobjectionable and well calculated to secure continuous beneficial training. And the provision not to allow migrat-

ing to another school in the middle of a term seems to be just as it ought to be.

Not being satisfied with these arrangements for the proper up-bringing of a pupil during the last three years of his scholastic career, the Committee proposes a public examination to boot, the marks in which are to be added to those assigned by the School staff. The cry of the present day is against the multiplicity of examinations—a legitimate cry, we presume. And nobody knows the evil effects of public examinations more than the educational experts who formed the Committee. If, over and above the certificate of proficiency from the Head Masters of schools, an examination be deemed necessary at all, it could very well be arranged to be conducted locally under proper control and supervision. This proposal and the necessity for conducting as much of the examination orally as possible were actually before the Committee; but they seem to have quietly abandoned the idea by simply stating that the "difficulties are prohibitive." Because they recommended the institution of a public examination also at the last stage, the Committee found that it was bound to find a way to free the examination from, at least, some of the drawbacks which mar the efficiency of a public test. The number of compulsory subjects prescribed is only three (English, Vernacular and Arithmetic) and there is practically no limit laid to the nature or number of optional subjects which a candidate may bring up. This, certainly, is a wholesome check on the attempt to put pressure on the pupil's intellect; and the arrangement to some extent removes the pupil's fear of the Damoclesan sword of an examination hanging over his head at the time of reading any lesson in his class.

Another proposal which the Committee has made to minimise the evil effects of an examination is not to draw a hard and fast rule between the "pass and the fail." The marks scored by each candidate in each of the subjects will be en-

tered in the certificate where the estimate of the Head Master has been previously put in; and the whole test is intended to be only one of relative merit among the candidates of a particular school or the applicants for a particular post. The plan puts a premium on honest continuous work rather than a spasmodic attempt to cross the border line, and as such, is one worthy of being given a fair and honest trial. Keeping in view the motives underlying the institution of the proposed course and examination, we are not surprised at the importance attached to the acquisition of special skill of a routine character rather than to the training of the intellect. The only thing required of a candidate in the Vernaculars at the public examination is a bit of Composition and Translation. Great importance is to be given to Hand-writing and Spelling in English and Vernacular and to "simplicity and directness of expression." Special provision will be made in the certificate for skill in Manual Training, a subject which is bound to be introduced in almost all schools sooner or later. Physical training and drawing are to have a prominent place in the schools preparing candidates for the certificate. Though no provision is made for teaching those arts "of which the practice may be acquired almost, if not quite as well, without general education as with it," yet the Board of Examiners is to be empowered to recognise any cor-related subject which may be efficiently taught.

By the side of these practical hints for bringing up a generation of youth fit to enter the business life of the world, we wonder why English should have been made a compulsory subject, though a concession is made in the interests of girls. A pupil well versed in the study of his own language in combination with the other subjects without a knowledge of the foreign language, would, the Committee itself, says, "undoubtedly be receiving secondary education," to certify to which is the object of the School Final Examina-

tion. But the Committee drops the question by saying that such a contingency is unlikely to occur. It seems to us that this policy is shortsighted and argues want of insight. The Vernacular schools of our State, for instance, have facilities for turning out students with the necessary equipment in all the proposed subjects through the medium of the Vernaculars without any admixture of English. And we dare say that, if facilities had been afforded for it, many similar institutions will spring up in other parts of the Presidency also with sounder knowledge conveyed through the mother-tongue. But the scheme, on the whole, is well conceived in spite of certain minor defects. It embodies in itself the experiences of many practical teachers. We feel sure that the public and the Government will not grudge to extend to it the sympathy which the importance of the subject and the weight of the personal opinion of its authors demand.

AN ENGLISH POET OF TO-DAY.* WILLIAM WATSON: AN APPRECIATION.

One of the most interesting questions that must face every true lover of English Literature, is the future of English poetry. The despair of pessimistic critics has been exercising its baneful influence over a wide range of the reading public, and the fear is every day gaining ground that the glorious days of English poetry have passed away never to return. It gladdens one's heart to be able to escape from falling a prey to the gloomy pessimism of these critics and be convinced that the muse of English poesy is still able to inspire her faithful votaries with as much enthusiasm as ever.

Swinburne, Stephen Phillips, and William Watson may rightly be considered the three greatest English poets living at the present day, and the poetic genius of a nation that can boast

of three such singers all simultaneously engaged in the field, does not surely exhibit signs of decay. It is the purpose of this article to justify that optimistic creed by the presentation of a critical appreciation of the work of one of them, William Watson.

Apart from the relation of Watson's work to the consideration of this question, he must be of more than passing interest to the student of English literature. An active interest in current contemporary English literature, as manifested in the best productions of the time, is absolutely essential for every earnest student of English. An appreciation of the classical masterpieces in the language—the work of its greatest poets, dramatists, prose-writers and novelists—must not satisfy his curiosity; he must also take a lively interest in the various developments which the literature has been undergoing before his very eyes. The student of *Hamlet* and *As You Like It* must condescend to notice Stephen Phillips' *Nero* and his *Paolo and Francesca*; while exhibiting a glowing admiration for the perennial beauties of *Paradise Lost*, he must acquaint himself with Swinburne's *Poems and Ballads* and his *Atalanta in Calydon*; if he has read *Vanity Fair* and the *Vicar of Wakefield*, he must also be familiar with Meredith's *Egoist* and Hardy's *Far from the Madding Crowd*. Watson, as one of the best exponents of English poetry at the present day, must thus be of considerable interest to us.

Elegiac poetry seems to to be Mr. Watson's special field, and his claim to a place in the history of English literature will largely rest on the fine series of elegies on Tennyson, Wordsworth, Burns, and Matthew Arnold. His *Lacrimæ Masarum*, *Tomb of Burns*, *Wordsworth's Grave* and *In Laleham Churchyard* entitle him to a very high place among elegiac poets in the English language. Their excellence approaches that of such masterpieces of English elegiac poetry as *Adonais*, *Lycidas*, *Thyrsis* or *In Memoriam*.

The exhibition of calm elegiac sentiment,

*Reprinted from the "EAST & WEST," August, 1908.

coupled with a serious philosophic insight, invests these poems with a merit that will do credit to the best elegiac poet in English. He has caught the true spirit of elegiac poetry and his expression of sorrow in song is at once dignified and graceful. His vivid portrayal of the life and character of the heroes whom he has chosen as the subjects of his verse, fills us with admiration for his sympathetic appreciation of their greatness. His masterly and critical examination of their intellectual work heightens the value of his sentiments, and stimulates our interest in those departed souls whose memory he has so successfully attempted to consecrate in verse. The breadth of vision displayed in these poems is quite characteristic of his poetic genius.

His remarkable insight into the personages whose loss he mourns, can be illustrated by numerous passages from them, as when he says of Burns :—

"No mystic torch through Time he bore,
No virgin veil from life he tore;
His soul no bright insignia wore
Of starry birth.

"Singly he faced the bigot brood,
The meanly wise, the feebly good;
He pelted them with pearl, with mud;
He fought them well,—
But Oh, the stupid million stood,
And he—he fell!

"A dreamer of our common dreams,
A fisher in familiar streams,
He chased the transitory gleams
That all pursue;
But on his lips the eternal themes
Again were new."

Or again, when he says of Wordsworth :—

"No word-mosaic artificer, he sang
A lofty song of lowly weal and dole,
Right from the heart, right to the heart it
sprang,

Or from the soul leapt instant to the soul.
He felt the charm of childhood, grace of
youth,

Grandeur of age insisting to be sung;
The impassioned argument was simple truth
Half wondering at its own melodious tongue."

Watson's excellence in the expression of literary criticism in verse is a constant source of admiration to the readers of his poems. He has been able to interpret the art of true literary criticism through his poetry in an extraordinary manner. The poetic genius of a Shelley, a Wordsworth or a Milton is characterised very vividly in a short compass, and the reader is enabled to possess an accurate estimate of his poetic work. He is lost in admiration of lines such as these (addressed to Wordsworth) :—

"Not Milton's keen translunar music thine,
Not Shakespeare's cloudless, boundless
human view,
Not Shelley's flush of rose on peaks divine,
Nor yet the wizard twilight Coleridge knew."

Or again :—

"From Shelley's dazzling glow or thunder-
ous haze,
From Byron's tempest anger, tempest mirth,
Men turned to thee and found—not blast
and blaze,
Tumult of tottering heavens, but peace on
earth."

Who can fail to appreciate these lines in his *Tomb of Burns*?

"Some Keats, to Grecian gods allied,
Clasping all beauty as his bride?
Some Shelley, soaring dim-described
Above Time's throng,
And heavenward hurling wild and wide
His spear of song?
A lonely Wordsworth, from the crowd
Half hid in light, half veiled in cloud?
A sphere-born Milton, cold and proud
In hallowing hues.
Dipt and with gorgeous ritual vowed
Unto the Muse?"

It may well be asked whether all the numerous volumes of critical appreciation of the work of

Keats, Shelley, Wordsworth and Milton, convey to the student of English literature, as vivid an idea of the peculiarities of their poetic genius as these last dozen lines. Though the poet presumes in these lines a sound knowledge of literature and literary history on the part of the reader, they are valuable as a lively expression of literary criticism in verse of an excellent quality. Every word and phrase is pregnant with meaning; the characterisation is accurate and the general estimate is at once critical and comprehensive.

A vivid idea is often conveyed to us by a slight touch of poetic skill as when the poet speaks of Collin's lonely "*vesper-chime*" and of "*the frugal note of Gray*," or when he characterizes Goldsmith's poetry as "*a cadence soft as summer rain*." It is impossible to imagine the expression of literary criticism of such an intensely critical nature, in more exquisite language. There have been successful attempts at the expression of literary criticism in verse, in English literature, for instance the well-known lines of Ben Jonson on Shakespeare, Keats' sonnet on Chapman's Homer, Matthew Arnold's lines on Wordsworth—but to Watson belongs the unique distinction of having blended, in perfect harmony, *critical accuracy with poetic beauty*.

The poet's partiality for this species of poetry contributes to a slight disfigurement of his elegiac poems. Stanzas, which are in themselves beautiful specimens of literary criticism in verse, occur very often in his elegies, sometimes even to the detriment of the elegiac spirit.

The reader's sympathy with the poet's sorrow is asked for, and he is expected to put up with his critical remarks on various other poets in season and out of season. The unity of interest is very often sacrificed as the poet wishes to indulge in his favourite predilection of conveying literary criticism in poetry. All the extracts quoted above to illustrate his excellence in this particular kind of poetic art, occur in his *elegiac poems*, and are not, therefore, quite consistent

with their main theme. They throw the subject of the elegy into the background for the time, and our interest is centred in personages other than the hero of the piece. While appreciating their innate excellence, the reader is disposed to feel that such digressions are quite unsuited to the spirit of elegiac poetry.

In his *Wordsworth's Grave*, he enters upon a critical description of the decadence of poetry in England in what is known as the "Classical Age" and its gradual revival with the Romantic Movement in English Literature. He almost loses sight of the subject and forgets his sorrow, not in any reflections on the problems of life and death—that would be eminently appropriate in an elegy—but in an excursus into the fields of literary criticism describing the decay and growth of poetry in particular periods of literary history. His description of the artificiality and narrowness of poetry in the "Classical Age," is thoroughly faithful; his reference to the part played by Johnson, Collins, Gray, Goldsmith and Burns in the revival of poetry is intensely vivid; nevertheless, the reader exclaims with irritation, "Why all this in an elegy on Wordsworth?" An interesting parallel suggests itself in Shelley's *Adonais*. When Shelley introduces the "Mountain Shepherds" Byron, Moore, and himself, into the poem, it is not for the display of his powers of literary criticism, but for heightening the elegiac effect, by representing them as weeping for the loss of Keats, the subject of the elegy. The same exquisite skill is seen in his representation of Chatterton, Sydney and Lucan, "the inheritors of unfulfilled renown" as welcoming the spirit of Keats into their midst. On the other hand, in Watson's elegies, the elegiac spirit is very often violated by the introduction of ideas which are of no concern to the subject. Is it any wonder the reader suspects that the expression of sorrow is not genuine and does not proceed from the heart? Watson has won considerable success in reflective poetry. He surveys creation with the meditative eye of a Browning and his writings thus acquire a peculiar ethical

and philosophic value. His chief merit lies in the fact that this is attained not by any injury to the *poetic spirit*, his philosophic meditations being always subordinated to the imperative requisites of poetic beauty. Melody, harmony and taste are not sacrificed at the altar of thought. The simple and the universal elements in human nature form the subject of his poems. His philosophic temperament does not lead him to an inordinate enthusiasm for the obscure and grotesque aspects of the human mind, which had, for instance, such a great fascination for a poet like Browning, resulting in the abstruseness of his verse. He displays a keen appreciation of the indisputable principle that all true poetry must appeal to the elementary and universal passions of humanity. He has not been led into an admiration for what Walter Bagehot calls, "the grotesque art in poetry." The reflective nature of his poems does not mar the grace and simplicity of his verse. Throughout his work intensity of thought is co-existent with excellence in the poetic art, an achievement of which any poet might be proud.

A hoary yew-tree which is the Father of the Forest, makes him contemplate thus:—

"The advent of that morn divine
When nations may as forests grow,
Wherein the oak hates not the pine,
Nor beeches wish the cedars woe,
But all in their unlikeness, blend,
Confederate to one golden end—
Beauty: the vision whereunto
In joy, with pantings from afar.

Toils the indomitable world."

This optimistic faith is ever present in his enunciation of the creed of the Universe, like Tennyson's "far-off divine event, to which the whole creation moves."

He asks:—

"And what is Nature's order, but the rhyme
Whereto in holiest unanimity,

All things with all things move unfalteringly."

A feeling of cheery optimism sways all his poetry. Even when he strikes a note of complaint as in that short piece entitled "World-Strangeness," it is—

"In this house with starry dome,
Floored with gemlike plains and seas."

The world is to him like a "Fairy Lamp" hung, "from the great branches of the solar scheme."

His optimistic appreciation of the order of things in creation is well brought out in the clever caprice entitled, "Eloping Angels." Faust is anxious to have a glimpse of heavenly bliss, and with the help of Mephistopheles actually visits Heaven; to their great surprise, they see two Angels who love each other, long to get back to the earth to settle down there as man and wife: Faust and Mephistopheles exchange their garments for that of the Angels, who descend to the earth and lead a happier life; the pilgrims from our world are also soon disgusted with the monotonous happiness of heaven, and themselves return to their original home, which is by far more interesting. Heaven is to them but the mere "dulness of entire felicity," where there are not as in this world

"Objects new,

Tempting the soul for ever forth to press."

The poet expresses his whole-hearted appreciation of our existence here, its struggles and expectations, its triumphs and imperfections, when he says:—

"One goal obtained, another half in view,
One riddle solved, another still to guess,
Something subdued, and something to subdue,

Are the conditions of our happiness,
I know no harsher ordinance of thought,
Than the stagnation of your perfect state."

The imperfections of this world do not turn him a bitter misanthrope, but make him realise the happiness in that constant progress on earth

towards perfection. He has put into practice with admirable effect his own exhortation to poets:—

"Since Life is rough.
Sing smoothly, O Bard."

He has the true poetic instinct which sees that Art keeps no record of Life's "travail and throes." "Enough, enough," he exclaims "to have found life hard."

His poems on public affairs are by no means a negligible feature of his work. Their merit must be acknowledged, though it cannot be asserted with confidence that they will take a permanent place in literature, on account of the transitory interest attached to such poetry. A variety of political topics is dealt with in them in a very warm and enthusiastic spirit. An appeal for some cause, the ethics of a certain war, the wisdom of a statesman, the glorification of national greatness—subjects like these engage his attention in this series of poems.

It is, however, unfortunate that all the poems of this class should have been clouded by the exhibition of a narrow and insular spirit of patriotism. It is always *England's* greatness that excites his muse, and he is ever ready to proclaim her greatness with a shrill blast of trumpets. He has no hesitation in

"Accounting her all living lands above,
In justice and in mercy and in love."

His sympathies can extend at best to the limits of the British Empire, "whose broad roots coil beneath the sea" and "whose branches sweep the world." He resembles Rudyard Kipling in this exhibition of a haughty and exclusive spirit of national imperialism which is inconsistent with the breadth of sentiment that must characterise a true poet.

His voice is not raised in the cause of universal freedom and liberty. The struggles of fallen nations in their efforts for emancipation command no sympathy from him as they do from Byron or Shelley, nor do the triumphs and achievements of

countries other than his own call forth his unstinted admiration.

He sneers, as Tennyson did, at the "froth and flotsam of the Seine," he gloats over England's possession of the Eastern Treasure, India in her "Constellated brow," but is not moved by any exalted ideas of England's mission in the country; he asks on behalf of his nation 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."

Strangely enough, he goes to the length of justifying such outbursts of national vanity and exclusiveness in his poetry. "I own," he says with a glow of pride, "to insularity," and none will envy him the possession of that rare virtue.

No appreciation of Watson's work will be complete without a word of praise for his neatly turned epigrams. He has shown in them that breadth of poetic vision is not inconsistent with epigrammatic brevity of expression. They are not pieces of artificial poetry dull and colourless in their nature. They are, on the other hand, full of poetic life and possess a peculiar charm of their own. His epigram on the tragic episode of Shelley's relationship with Harriet Westbrook is an effective illustration of his success in the art:—

"A star look'd down from heaven and loved
a flower,
Grown in earth's garden, loved it for an hour.
Let eyes that trace his orbit in the spheres
Refuse not, to a ruined rosebud, tears."

While appreciating the beauty of these lines, the reader will easily discover, beneath their euphemistic vesture, the cruel and barbarous nature of Shelley's ill-treatment of poor Harriet.

The merits of Watson as a poet are so clear that there is no difficulty in assigning him a secure place in English literature. The literary convention of estimating, at the conclusion of a critical sketch of a poet's work, his exact place in the ranks of the other poets of the language

might be dispensed with on an occasion like this when we are considering the production of a living poet whose work is not complete and of whom more can be expected in years to come. It may be too much to ask for him, at present, a place along with the *master-poets* of the English language, but even the morose hypercritic cannot deny that he has all the distinguishing features of a true poet.

P. SESHADRI.

THE REPORT OF PUBLIC INSTRUCTION IN CEYLON.

The Report of Public Instruction in Ceylon just issued is a record of healthy progress achieved during the year under review. The net cost to Government increased from Rs. 1,071,732-c. 28 in the previous year to Rs. 1,297,650-c. 77 in the current year, one noteworthy feature in the items of expenditure is the allowance to Monitors and bonus to Head teachers, a system of encouragement which finds no analogue in the educational frame work of British India. It is also satisfactory to note that the Committee on Oriental Studies, Colombo, held two Examinations in the year in which 15 candidates passed in the Preliminary and Intermediate Examinations but the results of the London Matriculation Examination of the students, who appeared from the Royal College, seem not satisfactory, considerable attention seems to have been paid to Training Schools and Teachers' Examinations. A pleasing feature of the report is the giving effect by the Government to the recommendations of the Committee appointed in 1906 and we hope that with these advantages, Ceylon will enter into a new era of technical and industrial advancement.

CORRESPONDENCE.

OFFICE OF THE SECRETARY,
SANKARANAINARKOIL EDUCATIONAL
CONFERENCE AND EXHIBITION
COMMITTEE,
(SANKARANAINAR KOIL),
1st September, 1908.

SIR,

An Educational Conference of all the managers and teachers of the Elementary and Secondary Schools in the Sankaranainarkoil Taluk is proposed to be held under the presidency of the Inspector of Schools, IV Circle, at Sankaranainarkoil, on the 19th and 20th November 1908. A series of model lessons on the subject newly included in the new scheme of studies will be given. Lectures on free-arm drawing, physiology, elementary science, agriculture and astronomy with magic lantern slides, etc., will be delivered. Biological and agricultural demonstrations will be held for the benefit of the teachers. On the afternoon of the second day the difficulties experienced by managers and teachers in connection with the Madras Educational Rules and the Grant-in-aid Code and other matters bearing on education which the managers and teachers wish the Conference should discuss, will be considered and resolutions passed thereon.

2. In connection with the Conference an Educational Exhibition is also proposed to be held. The *bona fide* works of the teachers and pupils in the Sankaranainarkoil Taluk are expected to be exhibited. The following may be taken as a rough classification of the exhibits expected:—

A. Drawing—

(a) Free-hand or free-arm (1) by pupils with pencil, crayon or brush on paper boards, etc., from natural objects, memory, etc., (2) by teachers with pencil or crayon on boards or brown paper to illustrate stories and nature-study lessons.

(b) To scale with ruler—plan of buildings, measurements of plots of ground, etc.

(c) Map drawing:—Outline maps, specimen maps illustrating physical features, railways, rainfall, population, animals, mineral or agricultural produce, languages, etc.

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B. Writing—

The best specimens of the pupils' hand-writing.

C. Kindergarten work—

- (1) Clay work:—fruits, animals, etc.
- (2) Pith work:—temples, buildings, etc.
- (3) Pricking and sewing.
- (4) Paper and card board work.
- (5) Bead and seed work.
- (6) Mat weaving:—papers, leaf, grass, etc.
- (7) Basket weaving:—palmyra leaf, date leaf, etc.
- (8) Garlands of paper flowers.
- (9) Colour work.

D. Wool work.

- (1) Knitting. (4) Outline.
- (2) Map-sewing. (5) Ornamental.
- (3) Cross stitch.

E. Needle work—

- (1) Plain. (2) Fancy.

F. Apparatus and appliances—

For teaching geography:—paper, globes, relief maps, etc.

G. Collection of objects—

To illustrate lessons and adorn school museums:—coins, stamps, eggs, nests, seeds, minerals, etc.

H. Collection of pets—

For nature-study lessons:—birds, animals, etc.

I. The products of school gardens—

J. A set of rules of good conduct framed for moral instructions to the pupils.

K. Courses of lessons in free-arm drawing adapted to the different standards in the elementary schools as per new scheme of studies.

It is requested that the teachers who desire to send exhibits should communicate the fact before the 20th October 1908.

3. A competition in free-arm drawing will be held at the Conference amongst the teachers who will be asked to draw quickly on the black board the picture of birds, animals or trees. Another competition will be held amongst the teachers for action songs suitable for the dramatization by the pupils. These songs should be composed out of the six stories

which will be assigned separately to each competitor on application. Such of the teachers as are desirous to take part in either of the competition should submit their applications immediately to the Secretary.

4. Exhibits from any one interested in education will be welcomed but are not open to competition. It is hoped that the Agricultural Association, Tinnevely will be good enough to exhibit all kinds of improved agricultural implements and the Tinnevely Hindu College Committee to exhibit the different physiological apparatus, charts, relief maps, etc.

5. A Committee has been formed to make the necessary arrangements for both the Conference and Exhibition. The Committee hope to award to the best exhibitors medals, prizes or certificates.

6. To ensure success the active co-operation of all the managers and teachers in this taluk is very necessary. I therefore, request that you will be good enough to instruct the teachers under you to attend the Conference on the above dates and do their utmost for the Exhibition and send to me the best exhibits of their own and their pupils' work.

I remain,

Sir,

Yours truly,

A. GOVINDARAJULU,
Secretary.

N.B.—The Exhibition and Conference has since been thrown open to the whole district of Tinnevely.

THE SANKARANAINARKOIL EDUCATIONAL
CONFERENCE AND EXHIBITION COMMITTEE.

PRESIDENT:

Mr. N. Gopalaswami Iyengar, B.A., B.L., Divisional Officer.

VICE-PRESIDENT:

Mr. P. N. Muhammed Miran, B.A., Tahsildar.

SECRETARY:

Mr. A. Govindarajulu Mudaliar, B.A., Sub-Asst. Inspector of Schools.

TREASURER:

Mr. Pitchumani Iyer, Mittadar of Vyal.

OTHER MEMBERS:

Mr. M. R. Sankaranarayana Aiyar, Sub-Magistrate.

Mr. James Duraisami Naidu, Union Chairman,
The Zemindar of Kuruvikulam.

Mr. D. Pushpam Pillai, Hospital Assistant.

Mr. Yegnarama Iyer, Minor Irrigation Sub-Overseer.

THE NELLORE EDUCATIONAL EXHIBITION.

MR. M. Subrahmanyam, B.A., L.T. writes to us as follows:—It is now practically settled that an educational exhibition should be arranged to be held in Nellore in Feb. '09. The exhibition is chiefly intended for the Guntur and Nellore Districts. But loan exhibits from the different model schools in the Presidency will be obtained and kept on view. Exhibits will be classified on the lines adopted by the Madras Educational Exhibition Committee but teachers' work will be separated from pupils' work. In some of the departments the competition will be thrown open to inspecting officers also. The distinctive feature of this exhibition will be the presence of exhibits from some of the schools in America. A strong and representative committee has been formed with the Inspector of Schools, II Circle, as the President, and circulars are being issued. Prizes will be awarded to the best exhibitors. It is requested that all the educationists in the Guntur and Nellore Districts will help the Committee in all ways they can to make the exhibition successful and instructive. Further particulars may be obtained on addressing Miss K. Darmstadt and M. Subrahmanyam, Honorary Secretaries, the N. E. Exhibition Committee, Nellore.

OUR ENGLISH LETTER.

Bristol, August, 1908.

Some months ago upon the introduction of Mr. Birrell's Irish University Bill we wrote in enthusiastic terms about its prospects and predicted a triumph for this much-tired minister. Often since then it has seemed as though our congratulations were premature. More than once it has seemed doomed to failure. But it has outlived its buffetings, and is now on the statute book. Mr. Birrell is a proud man. It was to try and solve this problem that he took office as Irish Secretary. Successive Secretaries had experimented in this direction. Mr. Balfour was an acknowledged supporter of University reform, but could not rely on carrying his party with him: he feared the men of Ulster. Mr. Bryce's scheme was still-born. Mr. Birrell has succeeded, and Mr. Balfour's speech on the Third Reading was one of the finest that even he has ever made. It was an exceedingly generous and gracious act of his to speak as he did. It was a subject that gave full scope to his unrivalled powers of speech. Education is one of the subjects in which he is genuinely interested, and his speech on this occasion was received with markedly close attention on both sides of the House. Mr. Balfour has indeed regained all his old ascendancy in the House. At the beginning of this Parliament the Radicals and Labour men used to refuse to listen to him. That was the insolence of the hour of victory. But now he stands once again where he did; no other man on his own side of the House is within measurable distance of him; there is no rival claimant.

The University Bill will be familiar to all in its main outline, and we gave a detailed exposition of its provisions some time ago. It will only be necessary now to give some indication of its reception by the parties mainly concerned. Ulster of course was loud in its condemnation. The English Non-conformists however stood by Mr. Birrell. They did not like his Bill, but it seemed to them the best way out of the difficulty. Dr. John Massie, late Tutor of Mansfield College, Oxford, and now a proved Parliamentarian, did much for the Bill by his sane and moderate advocacy of it. The Irish hierarchy has not blessed the Bill: it did not give them all they asked or desired: on paper, at least, there is no endowment of Roman Catholicism. And here we are brought up against the main feature of the Bill. It really will depend more than most measures on the manner of its working. At present it is colourless. Only time can tell us what colour

it will take. Dublin may become to all intents and purposes a Roman Catholic University, and Belfast Presbyterian, but there will be no manifest reason why others may not breathe their air, just as Non-conformists can live and flourish in the atmosphere of High Anglican Oxford. In any case there is no reason for us to believe Sir William Anson when he affirms that Dublin will become not a Roman Catholic University but a 'theological seminary, an institution wholly and solely under the control of the hierarchy.' In fact we would say that it is the constituency rather than the constitution that will be Roman Catholic and Presbyterian in either case.

The Commissioners have been finally selected. There are some well-known names among them. Dr. McAlister is one of the Belfast Commissioners. He has had a long connection with St. John's College, Cambridge, and is now Principal of Glasgow University; so his experience undoubtedly fits him for the post. We chiefly remember him, however, for his reading of the Lessons at the Presbyterian Church in Cambridge. The manner of lesson-reading was far removed from the manner of the sermon. Mr. Johnston Ross, the minister of the Church, is probably the greatest preacher in England to-day. On the Dublin Commission we notice the names of Mr. Stephen Gwynn and Sir William Butler, and Professor Jackson of Cambridge, the latest addition to the eminent men who hold the Order of Merit, surely the highest honour that the King can bestow. The last name on the Commission is that of Archbishop Walsh.

Trinity College, Dublin, has just conferred honorary degrees on Professor George Adam Smith and Mr. Reginald Macan. Dr. Smith has just laid all Biblical students under a fresh debt of gratitude by the publication of his exhaustive work on Jerusalem. It is surely seldom that the most minute research and scholarly criticism are united, as in his works, to a most brilliant style. His manner and matter are equally admirable. Mr. Macan is now Master of University College, Oxford, the college which took a new lease of life in the nineties, largely owing to the work and influence of some of its junior dons. Mr. Hemmerde, now one of the youngest K.C.'s, was not without his share in this work. We do not know whether the Master still continues his Herodotus lectures. But none that attended them are likely to forget some of the dramatic moments.

Professor Meyer said a fine thing in a Lecture at Liverpool University the other day: 'A Uni-

versity should be a factory as well as a market of learning.'

The Assistant Masters' Association has scored a point. Insecurity of tenure has long been a source of irritation and weakness. Earl Beauchamp on July 6 introduced a Bill in the House of Lords which makes the Assistant Masters the servants not of the Head Master but of the school, and making summary dismissal impossible. The Bill only refers to endowed schools, and even specifically excludes certain of them, and it has no reference to women teachers. But despite these defects it is welcomed as a substantial instalment of reform. It was significantly announced by the supporters of the Bill that amendments with a view to strengthening it would play the same purpose as attempts to wreck it. The result of this wise precaution has been the passing of the Bill.

The main Education Bill not been further proceeded with. Obscure, if not mythical, negotiations are proceeding between the various parties involved, and we fancy that Mr. Runciman is spending a somewhat troubled vacation. His promotion has been swift and well-deserved, and he has acquitted himself well so far, but his main trial lies ahead of him. We have, however, to put to his credit very successful settlement, for a time at least, of the question of the Training Colleges. Half the places in the denominational Training Colleges are to be open to applicants belonging to other denominations. This arrangement is to hold for a year, after which the question will be opened again. So far, so good.

The Regulations for the Training of Teachers in Secondary Schools have just appeared, and fortunately they are to be retrospective. The financial support (£100 for each group of 5 students) is on a reasonable scale and will enable one or two colleges that were drawing to their end to re-establish themselves.

Oxford has sustained a great loss in the vacation by the deaths of Dr. Bigg and of Mr. Louis Dyer. Mr. Dyer was an American, who practically acted as Consul to his compatriots at Oxford. The services he rendered socially could not be over-estimated. While his loss will perhaps be chiefly felt in this direction it must not be forgotten that he was a great linguist and a man with wide intellectual interests. Canon Bigg was in the first rank of the Church's scholars. He and Sandon and Driver made a triumvirate of which Christ Church—yes, and the Christian

Church—was justly proud. His loss will be deeply felt, and his place as Professor of Ecclesiastical History will not be easy to fill.

The King opened a new wing of Leeds University on July the fourth. The King fully realizes the great work that lies before the newer Universities, and as ever he is on the winning side. His adherence of course is well nigh enough to make any side a winning one, but it is wholly admirable the way in which he identifies himself with the great movements of the day, confirming and creating popular sympathy, whether the institution be a new dock, a new University, or the Salvation Army. The services that such a University as that of Leeds can render are great indeed. It serves to democratize the higher studies, to imbue the material with the moral and intellectual. Its existence is not a challenge, but a truce: there is no nonsense about town and gown, such as still survives, to an extent often unrealised, in Oxford and Cambridge. Its branches of study are four—Arts, Science, Technology and Medicine. The representatives of the Municipality have a voice in the government, the money for its support comes largely from rates and taxes, and the finished article is the more esteemed on the principle that we value what we pay for. The citizens are all 'pious founders and godly benefactors.' They are not aliens from the commonwealth: it is their University, and theirs is the pride of possession. The municipalization of education has also ensured the existence of stepping-stones by which the son of the working-man has every chance of taking his degree, as he could not at Oxford or Cambridge without being an exceptionally apt student and winning valuable scholarships. A small exhibition will suffice at a local University, and these are now being provided by County Councils. The result is that these new Universities are trusted. They can pick the pockets of the captains of industry, and share in their gains, well or ill-gotten. The technical appeals to the utilitarian business mind, and there seems no reason to doubt that all necessary endowments will be forthcoming at Leeds and elsewhere.

Here's health and long life to Leeds.

Reviews and Notices.

LONGMAN'S INDIAN MAP-BUILDING SHEETS. LONGMANS, GREEN & Co., 8, HORNBY ROAD, BOMBAY.

Each map in this series consists of a bold outline printed in red on a blackboard paper specially prepared for the use of coloured chalks. The chalk marks can be wiped out when no longer required, while the printed outlines remain permanent. Each map is 42 inches by 32 inches. The series contains Bengal including Eastern Bengal and Assam, Bombay Presidency, Madras Presidency, the United Provinces and Central Provinces, Punjab and North-West Frontier Province, and Burma. The price of each map mounted on metal ledges is 1 rupee net. The maps may be used with advantage in schools.

LONGMAN'S WRITING CHARTS: SET A—SMALL LETTERS; SET B—CAPITAL LETTERS.

Both these sets of writing charts will be found useful in primary schools.

LITTLE WOMEN BY LOUISA M. ALCOTT. WARD R. CHAMBERS, LIMITED, LONDON, 1908.

This book belongs to Chambers' Standard Authors and is well got-up. It may be used as a text-book in European girls' schools.

Indian Educational Notes.

MADRAS.

Mr. S. Subrahmanya Aiyer, B.A., First Assistant Teachers' College, Saidapet, is to act as Vice-Principal in the same college, during the employment of Mr. R. G. Grieve on other duty or until further orders.

Muhammad Azam Sahib, Moulavi Bahadur, B.A., Second Assistant, Teachers' College, Saidapet, is to act as First Assistant, vice Mr. S. Subrahmanya Aiyer.

Mr. M. Ramaswamy Aiyangar, B.A., L.T., Third Assistant and Acting Superintendent, Primary Department, Teachers' College, Saidapet, is to act as Second Assistant, vice Mr. Moulavi Muhammad Azam Sahib Bahadur.

The above arrangements to take effect from 1st August 1908.

Mr. S. Subrahmanya Aiyer, B.A., is to act in the Indian Educational Service.

Mr. M. Ramaswamy Aiyangar, B.A., L.T., is to act in the Provincial Educational Service.

Mr. M. Kameswara Rao, Assistant Inspector of Schools, Godavari Kistna division, the privilege leave for two months granted to, extended by one month.

The following promotions have been made in the Provincial Educational Service:—

Mr. H. Narayana Rao, M.A., First Junior Assistant Professor (Lecturer on Geology) Presidency College, is promoted from the Subordinate to the Provincial Educational Service and placed first in the 9th grade with effect from 28th May 1908, the date of confirmation of Mr. D'Silva in the Agricultural Department.

Mr. H. Malim, M.A., from the 2nd to the 1st grade.

Mr. B. O. Reynolds, from the 3rd to the 2nd grade.

Mr. C. W. Moss, M.A., from the 4th to the 3rd grade.

Mr. Singaravelu Mudaliyar, B.A., B.L., from the 5th to the 4th grade.

Moulavi M. Muhammad Azim Sahib Bahadur, B.A., from the 6th to the 5th grade.

Mr. U. Raghavendra Rao, B.A., from the 7th to the 6th grade.

Mr. T. Sankara Rao, B.A., from the 8th to the 7th grade.

Mr. H. Narayana Rao, M.A., from the 9th to the 8th grade.

The above promotions will have effect from 21st June 1908, the date of the vacancy caused by the death of Mr. T. R. Scott.

Mr. S. E. Ranganadham, M.A., L.T., is to act in the 9th grade of the Provincial Educational Service with effect from 13th July 1908.

Mr. K. Rangachariyar, M.A., L.T., is to be a member of the Provincial Educational Service in the 9th grade.

Mr. H. Malim, M.A., having resigned his office as an Ordinary Fellow of the Madras University is to be an Honorary Fellow.

The Hon'ble Mr. Justice Abdur Rahim, M.A., Barrister-at-Law, is to be an Ordinary Fellow of the Madras University.

The Government have sanctioned two proposition statements submitted by the Director of Public Instruction—one on behalf of the Agency schools in Genjam and the other for the Government girls' school at Rajahmundry—for raising the minimum pay of teachers to Rs. 8 per mensem.

In response to an invitation, many of the teachers in Bellary met in the Wardlaw College Hall at 6 P.M. on Saturday, the 12th instant. More than sixty were present, and there was also a fair sprinkling of ladies among the audience. There were a few teachers from the mofussil as also members of the Government inspecting staff. Mr. A.

Bhima Char, B.A., L.T., Headmaster, M. H. School, proposed Mr. J. P. Cotelingam, M.A., Principal, Wardlaw College, to the chair. In a short speech he said that the formation of an Association had been discussed in a few preliminary meetings in which Mr. Cotelingam showed how greatly interested he was to call such an Association into existence. Mr. Cotelingam explained at length the reasons for the formation of a local Association and gave an account of the Madras Teachers' Guild and its work. He also quoted other instances where a united and collective body was capable of doing much good work. In speaking of the pedagogic and administrative purposes which would be served by such an Association, he said, that they would all receive help from it in the new methods of teaching for example and would be able to do what they can as a corporate body to better the status of the members of the teaching profession. He then dwelt upon the Memorandum of the Madras Teachers' Guild on the formation of a Federation of Teachers in South India and that, if an Association could be formed at Bellary, it could send a delegate to the Executive Council of that body. The business part of the meeting was next transacted. A Committee representing nearly all the secondary institutions in Bellary was appointed, and the work of drafting the Rules of the Association and arranging for the next meeting was assigned to it. The meeting was then dissolved with a hearty vote of thanks to the Chairman.

The first annual meeting of the Student's Union, Coimbatore, was held on Tuesday the 15th September. A lecture on 'Character' was delivered by Mr. W. M. Theobald, Headmaster of the Stane's High School with Rao Bahadur C. Nagoji Rao in the chair. The meeting was well attended by many of the leading ladies and gentlemen of the town. The lecture was an interesting and instructive one with timely advice to the students. The work of the Society for the past year was read and it was found satisfactory.

The Director of Public Instruction, Madras, has been informed that the Government of India have decided that the Annual State Scholarship tenable in England by domiciled Europeans and Eurasians should, for the present, be reserved for male candidates only.

The Madras Government has sanctioned a building grant of Rs. 5,900 being one-third of the cost of the construction of a Hostel to be attached to the Calicut B. G. M. High School. A site has already been acquired and building operations have been taken in hand. It is expected the Hostel will be an accomplished fact by January next.

A PUBLIC meeting of the Hindu High School Literary Society, Madurantakam, was held in the School Hall on the 12th instant, when B. Raju, Esq., B.A., Professor, Pachaiappa's College, Madras, delivered a lecture on "What is Sincerity?" He began

by saying that sincerity did not consist in straight-way giving what one thinks, but that it consisted in giving out what one ought to think. He pointed out that conventional terms are of great importance in furthering the cause of sincerity. He clearly argued the difference between hypocrisy and giving out what one ought to think and concluded that the latter was not an act of hypocrisy as was considered by some critics but that it was cultivation of a higher divine sincerity. He said education has done much for us towards the cultivation of this higher sincerity. Sincerity, he gave out to mean to be true to one's self. That self should not be the changing or the changeable self of this moment or the other, but should be the normal self. The normal self was not at all the average self but it means the typical, the most perfect, and the ideal self. He concluded by saying that they should be true to that self.

A MEETING of the Elementary Teachers' Association, Sivagiri, was held at Board School Hall at Sivagiri on 29.8.1908 at 4 P. M. under the presidency of M.R.Ry. A. Govindarajulu Mudaliar Avergal, B.A. Sub-Asst. Inspector of Schools, Sankaranainarkoil Taluq. when Mr. Lonsdale, Agricultural Expert to the Court of Wards, the Hospital Assistant, Sub-Registrar, Home Farm Superintendent and other local gentries and 33 teachers of the several Elementary schools were present.

After the Secretary had read the proceedings of the previous meeting, the President called upon M. Manikkam, teacher, R. C. Mission School, Sivagiri, to give a lesson on correlation of studies. The teacher first gave a Nature Study lesson on the crow to the II Standard with the help of Kindergarten Method and Free Arm Drawing, he taught a story of the deer, the fox and the crow.

Afterwards the pupils acted as a drama the same story which was specially composed with action songs by the teacher himself.

Eventually two pupils drew on the blackboard the pictures of the deer and the fox to illustrate the principle of Free Arm Drawing. Amongst the other pupils one prepared the clay model of the pasture ground, two spread date seeds on the floor in the shape of crows, one prepared a net with pieces of coloured paper, and lastly one drew a coloured picture of the deer to illustrate brush work.

At the end the teacher gave a lesson on Kindergarten Drill and Physical Drill.

Mr. Lonsdale remarked that he was highly pleased with what he saw that evening and that he never expected to derive so much pleasure as he did when the Sub-Assistant Inspector of Schools, Sankaranainarkoil Taluq invited him for the meeting and he observed that the lessons were intelligently taught and reflected much credit upon the teacher and that if elementary education be imparted to the pupils adopting the Kindergarten method in all the schools as was done by the teacher, he

was sure that pupils would improve a good deal. He admired at the Blackboard Sketch. Clay models made by the pupils and in token of his appreciation of the pupils' work he presented a couple of Rupees to the children for buying sweetmeats.

The President described about the principle of correlation of studies in detail and exhorted the teacher to adopt them in their schools in giving lessons to the pupils. He also informed the teachers that arrangements are being made for holding an Educational Conference and an Exhibition for the benefits of the teachers of the Sankaranainarkoil Taluq at Sankaranainarkoil on the 19th and 20th of November 1908 under the presidency of the Inspector of Schools, IV Circle, and gave them a rough programme of the Conference and a rough classification of the exhibits expected at the Exhibition.

Finally he thanked Mr. Lonsdale for the kindness he had to be present at the meeting and for the interest evinced by him in agricultural education of the pupils and ryots and concluded with a remark that Mr. Lonsdale by his presence at the meeting that evening showed how deeply Englishmen are interested in the welfare of the Indians.

Mr. Narayanasamy Ivengar, Hospital Assistant, said in a few words that he was highly pleased with what he saw and he and his fellow brethren never had the good fortune to enjoy such benefits of education in their younger days and proposed a vote of thanks to the chair and to all present.

The Headmaster, Board School, Sivagiri, said briefly that the Teachers' Associations in Sankaranainarkoil Taluq enjoy a lively spirit in them owing to the warm interest and enthusiasm influenced by M.R.Ry. A. Govindarajulu Mudaliar Avergal, Sub-Assistant Inspector of Schools, Sankaranainarkoil Taluq.

Garlanding the President and Mr. Lonsdale and the distribution of *pan supari* brought the meeting to a close.

THE Ayurvedic Hospital and College which is maintained from the surplus funds of the Kanyaka Parameswari Temple, Madras, has earned the enthusiastic approval of men like Sir S. Subramanya Aiyar, the Hon. Mr. V. Krishnaswami Aiyar, Dewan Bahadur P. Rajarathna Mudaliar, Sir P. N. Krishna Murti, Mr. V. P. Madhava Row and others. Instruction in the College is imparted in Sanskrit and several of the question papers at the examination are set in the same language. Among the examiners are Sir Bhalchandra Krishna, Kaviraj Dwarkanath Sen, Maha Mahopadhyaya Vasudevachariar, and others. The course of studies embraces the principal Sanskrit works on Ayurveda and their study is supplemented by a regular course of instruction in the elements of Hygiene, Physiology, Anatomy, Midwifery, and Materia Medica according to the theory of English Medical Science. The full course of study extends to four years. The college is open to students of all classes possessing a sufficient

acquaintance with the Sanskrit language. The college is conducted by Pundit D. Gopalachari.

THE chief feature of the report of the Medical College is the confession that the Chemists and Druggists Department has been a failure and is likely to remain so until the employment of unqualified chemists is stopped by legislation. The students who offered themselves for this department at the College were not sufficiently educated to follow the lectures, and the Surgeon-General does not think that the Principal's suggestion of raising the qualifications of candidates for admission would be of much use. The results of the University Examinations were fairly good, and the strength of the College showed a small increase on last year. The physical education of the students is commented on by the Principal in one non-committal line. Their business in life is to heal others and presumably the care of their own bodies is of secondary importance. There were 32 female students, and it is satisfactory to learn that they have come to look on their profession in a hard-headed practical way and have given up the foolish sentiment and unbecoming false modesty of their predecessors. The question of a College hostel is under consideration and it is to be hoped that so desirable an institution will soon be sanctioned. The administration of the College is considered satisfactory by the Surgeon-General.

ON the recommendation of the Director of Public Instruction Government have, with effect from the 1st of this month, sanctioned the increase of the pay of the posts of the general Gymnastic Instructor and the general Drawing Master of the Government Muhammadan Elementary Schools, Madras, from Rs. 15 per mensem to Rs. 20—1—25.

WITH the object of encouraging the practice of such Art or Arts as the Council of the Victoria Technical Institute may from time to time select it has founded three scholarships, two of which will be called the "Sir T. Madhava Rau Travelling Scholarships." The Scholarships are open to all Members of the Artisan classes under the age of 25 years who are passed apprentices of the School of Arts, Madras, of the School of Arts in Trivandrum, of the Madura Technical Institute or of any other Institution which, in the opinion of the Council of the Victoria Technical Institute, is capable of giving a sufficiently sound preliminary training; or who have, in the opinion of the Council of the Victoria Technical Institute already acquired sufficient skill in the particular Art selected elsewhere than in the Institutions above mentioned. The scholarships will be of the value of Rs. 15 per mensem for the first, Rs. 17-8-0 for the 2nd, and Rs. 20 for the third year. The Scholarship-holders will be required to attend such public institutions as the Council of the Victoria Technical Institute may

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select, and will be placed under the control of the head thereof. Any article made by a scholarship-holder during his course of training will on payment being made for the materials used, become the property of the Victoria Technical Institute. For three months in the year the scholarship-holders will be required, if so ordered by the Council of the Victoria Technical Institute, to travel to and visit Art centres in India, Burma, or Ceylon, and to follow such course of training and study and to submit such reports and studies, as may be prescribed. They will be allowed a batta of one rupee a day up to a maximum of Rs. 90 per annum, and actual travelling expenses up to Rs. 100 per annum, during their absence from headquarters. Scholarship holders will not be permitted to appear for any examination while they are holding scholarships.

WE understand the Government of Madras could not spare the services of Mr. Mayhew for Cochin State temporarily as requested by the Durbar.

BOMBAY.

THE Government of Bombay have arranged with Professor Lees Smith of the London School of Economics and Political Science to deliver a course of at least ten lectures in Bombay during the approaching cold weather season. The following among other subjects will be included among the curriculum: Commercial geography, currency and banking, organization of factories and control of labour, exploitation of markets, theory of railway rates, general theory of the application of power, commercial law and wages.

THE Government of Bombay have passed the following Resolution on the report of the Principal, Elphinstone High School, Bombay, forwarded by the Hon'ble Mr. Selby, the Director of Public Instruction with a covering letter:—

Government notice with satisfaction the growing popularity of the examinations and hope that in future candidates will be forthcoming for the full commercial certificate in connection with which special arrangements have been made with the London Chamber of Commerce for holding the examination in Oriental languages and English in lieu of other European languages. The payment of the honoraria proposed by the Principal is sanctioned.

THE Maratha Educational Conference held its first sitting at Dharwar very recently. The objects of the Conference are thus told:—

The main object of the Conference is to educate the Maratha community which is greatly hindered in educational progress. It is worthy of note that at present the percentage of educated men in their community is 28 per thousand, which is deplorable.

It also wants to abolish the slight differences that exist among the Maratha community so that it may

work as one man for common objects such as its education.

To carry out these objects a General Council, consisting of certain public spirited and representative gentlemen, was formed at the Conference. We need hardly say that we wish the Conference every success and congratulate the organizers on the eminently practical work they have undertaken.

The Governor at the time of distributing prizes to winners from local schools, both Indian and European, under the auspices of the Poona Schools Athletic Association, remarked that cricket and tug-of-war were both foreign sports introduced by Englishmen in India and the Indian boys in beating their English comrades on their own ground had achieved victory over their masters.

CALCUTTA.

THE Maharaja of Darbhanga has promised Rs. 400 per mensem in aid of the Bihar National College, besides a donation.

HALF a dozen Bihari Hindu students are proceeding to England this month to complete their education.

IN connection with the rules regarding the examination, the Secretary to the Board of Examiners, Calcutta, will also conduct two examinations annually at Lucknow and two at Lahore in March and October.

A MEETING of the Senate was held recently at the Senate House, College Square. The Hon'ble Dr. Ashutosh Mukerji, Vice-Chancellor of the University presided, and there was a fair gathering.

The Syndicate's recommendations to the Senate that Professor W. C. Wordsworth, M. A. and Professor E. P. Harrison, M. A., Ph.D. be appointed University Lecturers in Economics and Political Philosophy and in Physics respectively for two years each, were carried.

It was then decided that Abul Hossain M. Taib, Ramgati Sircar, Ashutosh Basak, Banabihari Roy and Lolit Mohon Mitra be permitted to appear at the ensuing M. A. examination as non-collegiate students.

We are glad to learn that the Executive Committee appointed by Government in connection with the scheme for establishment of a training college for women in Calcutta has approved of the scheme to open a training class on a small scale, as a tentative measure, pending the establishment of a training college for which a scheme has already been drawn up and submitted to Government. Mrs. Mitra,

who has lately returned from England, will be the Lady Principal and will get Rs. 200 a month. There will also be a Headmistress on a monthly salary of Rs. 40 to 50. It is expected that the number of pupils will be limited and each pupil will get an allowance of Rs. 10 a month.

THE most striking feature in the synopsis of studies in the Bengal Technical Institute, is the opening of a class for Industrial Chemistry. It has been placed under the charge of an able French Professor, M. Coulon, who was for a long time Government Analyst in the Paris Customs House. The Institute has secured the services of Mr. J. K. Das Gupta, B. Sc. (Glasgow) for Mechanical Engineering, Mr. C. F. Boak for Electrical Engineering and Mr. G. C. Sen, M. A., (Leeds) for Dyeing. The courses of studies are varied and offer large scope for individual choice. Their chief merit, as it should be, is in their practical usefulness, each opening an industrial career to the successful student. We have no doubt our young men will enter the Institute in large numbers.

DR. D. N. Mallik, F. A. (Cantab), B. Sc. (London) D. Sc. (Dublin), Professor, Presidency College, Calcutta, has been elected a Fellow of the Royal Society of Edinburgh for his researches in Physics and Mathematics.

THE Nawab of Murshidabad has donated Rs. 200 in aid of the Islamic School Building Fund, for which the Managing Committee of the Islamic Association have tendered their thanks.

THE St. Paul's School, Darjeeling, aims at offering to boys whose parents cannot afford to send them to England as good an education and training as would be given by an English public school. The masters are all appointed from Home and are all, or at any rate most of them, honour graduates of Oxford and Cambridge. The principle on which the school is managed is that of an English public school, with a perfect system, compulsory games, etc. The school is permitted to send its boys up for the Cambridge Local examinations instead of those of Calcutta University, and St. Paul's boys have done very well in the Police, Superior Accounts, Burki, Opium, Salt, Telegraphs, etc., as well as at English Universities. Two of the old boys have left for England to enter Cambridge, one having been awarded the Government of India Scholarship. Situated on Jalapahar hill above Darjeeling, St. Paul's claims to be the highest school in the world, and the site in addition to giving a magnificent view of the Himalayan snows, is famous as being particularly healthy. It is to be hoped that now that it is vested in the Treasurer of Charitable Endowments, it will have an increased scope of usefulness in its very unique and admirable work.

THE Aligarh College has decided to send to England with the Agha Khan's scholarship a Mahomedan graduate having special taste for Physics, in which he must take a degree. In addition to £250 per annum for three years, the student will be given the expenses of his journey, and should it be necessary to raise the amount a further grant of £50 will be given. He will be bound, on passing, if required, to serve the College for five years on the European staff.

AT a meeting of the "Vaishya Sabha" resolutions were passed laying emphasis on the desirability of establishing a Hindi chair at the Presidency College. The resolutions have been forwarded to Government.

DR. G. F. W. Thibaut, Registrar of the Calcutta University, represents India at the International Congress of Moral Education, London.

THE *Behar Herald* says that in reply to the address at Patna, His Honour the Lieutenant-Governor of Bengal proposed to appoint a committee to consider the recent changes in the curriculum for the Matriculation Examination of the Calcutta University and to meet the Vice-Chancellor and lay the matter before him.

THE next Vernacular Mastership Examination for Bengal will be held on the 6th, 7th, 8th, 9th, 11th, and 12th of January 1909.

The examination will be held at the Training Schools at Calcutta and Hooghly, and at the Church Missionary Society's Training School, Krishnagar.

Bona-fide teachers who have passed the necessary preliminary examination, will be admitted to the examination on payment of a fee of Re. 1, which must be sent to the Head Master of the Training School at which the candidate desires to be examined on or before the 7th November, 1908.

These candidates will be examined in all the subjects prescribed for students of Training Schools, information about which will be furnished by the Head Masters of those schools on application.

Teachers who passed the Vernacular Mastership Examinations in the old course, may be examined in any or all of the following newly revised groups of subjects for the Vernacular Mastership Examination:—

- Elementary Science;
- Drawing and Practical Geometry;
- Art of Teaching and Kindergarten;
- Manual Work and Drill.

Teachers who hold first-grade certificates awarded under the old course, must take the examination which is prescribed in these subjects for candidates for first-grade certificates. Similarly teachers who hold second grade certificates, under the old course must take the examination which is prescribed in these subjects for candidates for second-grade certificates.

Lists of examinees, whether students of Training Schools or *bona-fide* teachers, must be submitted by Head Masters of Training Schools direct to the Director of Public Instruction, Bengal, so as to reach him on or before 9th November, 1908. The fees received from *bona-fide* teachers must also be sent to the Treasury, and the *chalans* sent to this office along with the applications.

The current session of Training Schools will, as a special case, end on the 31st January 1909, and the new session will begin on the 1st February, 1909. Students of the 2nd year who get stipends, will accordingly get their stipends up to the 31st January 1909.

UNITED PROVINCES.

THE United Provinces have opened a School of Horticulture at the Saharanpur Botanical Gardens, at which European, Eurasian, and Native youths are to be trained to meet the increasing demand for trained gardeners. The school has started with two classes, an overseer class and a chauthri class, and a couple of European youths have already joined the former.

THE United Provinces Government have awarded a State technical scholarship to a native gentleman of Benares to make him to undergo a course of training in England in silk weaving.

THE Secretary of State has appointed Mr. Gerald Gardner Brown, M.A., to the Indian Educational Service to fill the post of Professor of History at the Muir Central College, Allahabad.

NAWAB Azmat Alikhan Sahib, the *Rais* of Karnal and Muzaffernagar, has decided to devote the whole of his property, valued at three lakhs of rupees to the cause of Mahomedan education, secular and religious. The Aligarh College, the Anjuman-Himayet-i-Islam at Lahore, the Nadwatul-Ulema at Lucknow, and the Madrasat Tibbia at Delhi will receive each a sixteenth portion of the income of the property. Other religious institutions are similarly endowed.

PUNJAB, ETC.

Mr Dobbs, Principal of the Panjab Agricultural College, goes as Principal of the Bengal Agricultural College, while Mr. Corbin, Principal of the latter College, reverts to the Panjab Agricultural Department. Mr. Barnes becomes Principal of the Panjab Agricultural College.

INDIA (GENERAL).

At a recent competitive examination in London for Commissions in the Indian Medical Service, there were forty-one candidates for twenty vacancies. The list of the successful twenty includes three Cambridge, six Edinburgh, two Glasgow and one Birmingham University graduates, headed by Mr. R. Lloyd, B.A., Cambridge, with 3,834 marks out of a possible 5,100. Among the successful candidates are Abdus Satar Khan, Calcutta Medical College, Sohrab Shapoorji Varifdar, Grant Medical College, Bombay; Maneck Dhanjishaw Wadia, of Bombay, and Sureswar Sarka of Calcutta.

Dr. Alois Kraus, Professor at the Frankfurt Academy of Social and Commercial Sciences, is making a tour in India for a study of the economic and geographical facts of the country. His mission has been announced to all Provincial Governments who have been requested to afford him facilities in his enquiries.

The following Resolution in the Home Department is published:—

The Government of India have for some time past had under their consideration the question of encouraging the scientific study of Sanskrit and Arabic by natives of India. They believe that great advantage will result from aiding students to acquire the critical and scientific methods of Western scholarship by studying classics under European professors and by acquiring a knowledge of French and German, which is indispensable for making full use of the researches of European Orientalists. They have accordingly decided, with the sanction of the Secretary of State, to allot for the present four scholarships tenable in Europe, three for the study of Sanskrit, and one for the study of Arabic. Not more than two will be awarded annually. The scholarships will be open to well-qualified students with a genuine taste for oriental studies and to gentlemen already employed as Professors of Sanskrit and Arabic in India. The value of each scholarship will be £150 a year, and it will be for two years. The Secretary of State will decide the courses of study of each scholarship-holder and the special conditions to be observed, if necessary, by students who elect to study in continental Europe rather than in England. A scholarship-holder will be provided with a free second class passage to Europe and also with a return passage if he completes the full period of re-

sidence or is compelled by sickness to return within that period. He will be required, for disciplinary purposes, to conform to such rules as the Secretary of State may make in this behalf. In the first year one scholarship will be awarded for Sanskrit and one for Arabic. In the following year two scholarships for Sanskrit only will be awarded. Each local Government or Administration is invited to submit during the current financial year the name of one candidate for a Sanskrit and one for an Arabic scholarship, and in the following year the names of two candidates for a Sanskrit scholarship, this procedure being followed in alternate years. It is requested that the names of the candidates may be accompanied by a full description of their qualifications and with the views and recommendations of the local Government thereon. The power of selection will rest with the Government of India, who will award the scholarships. Administrations are requested to submit their recommendations so as to reach the Government of India by the 31st March of each year at the latest. Those for the current year should be sent in as soon as possible.

The "Times" publishes a special article on Indian students in England which says that there is reason to believe that after the current vacation steps will be taken to give effect to the recommendation of Lord Morley's Departmental Committee. It is intended to provide machinery for meeting the needs of Indians, both on arrival and at later stages of their sojourn, and to place a tactful and experienced officer, familiar with student habits in charge of the bureau of information. The proposed organisation will probably appoint Provincial and District Committees in India to co-operate with the Committee of resident Indian elders in London. If the recommendations of the departmental committee are accepted, the Northbrook Society, the National Indian Association and the East Indian Association will probably be brought under one roof in a suitable building which will be rented experimentally, though each society will have a separate office.

The quinquennial report on education in India upon which Mr. H. W. Orange, Director-General of Education, is at present engaged, will be ready for publication by the new year. It is being specially drawn up for Lord Morley.

Mr. Fell, Deputy Secretary, in the Home Department of the Government of India, will be placed on special duty for three months, from the 1st proximo, to collaborate with Mr. Orange, Director-General of Education, in the preparation of the quinquennial education review.

In regard to what the Government has been doing for the promotion of technical education, the *Hindoo Patriot* brings together a number of interesting facts. "So far back as 1886, Mr. now Lord MacDonnell prepared a Memorandum on Technical

Education in India, and since then one or other official has admitted the magnitude and importance of technical education and industrial development of the country. That the Government was anxious equally with the people to help in the spread of technical education, is a fact which cannot be denied in any quarter. All that is needed in that direction has of course not been done yet, but the record of work is not by any means a disappointing or discouraging one. The development of Roorkee College, Poona College of Science, Madras College of Engineering, the C. E. College, Shibpur; the establishment of the Imperial Agricultural College at Pusa, the Sabour Provincial Agricultural College; the raising of the status of the Saidapet Agricultural College in Madras, of the Cawnpore Agricultural School to a College, the Bankipore and Dacca Survey Schools; the grant-in-aid to the Victoria Technical Institute, Bombay; the opening of the Engineering School at Rangoon, and grants-in-aid to several technical institutions of local importance all over the country, and the allotment made for the establishment of a weaving college at Serampore and in the Madras Presidency, as well as the granting of mining and technical scholarships for the training of Indians in England or other Western countries, are sure indications of the attitude of Government in regard to the industrial and commercial development of the country.

Messrs. Madan, Sathe and Wadia, all students from the Bombay side, have been successful in the last examination for the Indian Civil Service at Home. No Bengali competitor appears to have been successful.

Dhulip Singh, the third son of Sir Harnam Singh, K. C. I. E., has passed into the Indian Civil Service in the last examination. He was a student originally at the Forman Christian College at Lahore. Seven other Indian students have also been successful.

The Government of India have decided that the annual State scholarship tenable in England by domiciled Europeans and Eurasians shall, for the present, be reserved for male candidates only.

In the whole of British India in the year 1906-07 there were less than 625,000 girls receiving education, against nearly 48,00,000 of boys. Of these a bare 273 were in Colleges, while about 525,000 had not passed the lower primary grade. The total number of institutions for girls in the same year was 12,470 against 150,220 for boys. The total expenditure on primary schools for girls in the same year was Rs. 18,89,524 against Rs. 1,36,85,947 spent on primary schools for boys. The ratio of girls to

boys under instruction is about 1 to 8. Ten years ago it was about 1 to 10. As regards creed, among Christians and Parsees the ratio of girls to boys is about 1 to 2, among Buddhists and Brahmins about 1 to 7, and among Mahomedans and non-Brahmins about 1 to 9.

The Raja, who, a London paper recently announced, has placed at the disposal of the authorities £60,000 for the establishment of a College of Loyalty, is the Raja of Bhinga, a well-known Rajput ruler. The privileges of the projected institution are to be exclusively confined to pupils willing to make solemn affirmation of loyalty to the British Raj, and the actual taking of such a pledge will be a condition precedent to admission. The Raja further stipulates that the College shall be reserved for the Rajputs. The Raja, it may be mentioned, is the descendant of an ancestor who was first ennobled by the Emperor Jahangir in the early days of the seventeenth century.

Foreign Notes.

GREAT BRITAIN.

The annual exhibition at South Kensington of drawings, paintings and specimens of the artistic crafts for which awards have been made in the national competition gained additional interest this year from the Proximity of the International Art Congress Exhibition, which was held in the adjoining galleries of the Museum. At the same time and in the same building was also shown a selection of works from schools of art, joining a retrospective exhibition of works which have received awards during the past ten years whilst in the southern galleries of the Museum was a selection of the works done by the students of the Royal College of Art during the past year. The coincidence of these otherwise independent exhibitions gave a unique opportunity for the study of the results of British state-aided art teaching in all its grades, an opportunity which was appreciated to the utmost by large numbers of provincial and foreign teachers and art workers who attended the meetings of the congress.

An important change is to be welcomed in the Regulations of the Board of Education for technical schools, schools of art, and other forms of further education in England and Wales now published. It requires the appointment of a headmaster in those institutions where hitherto the various teachers have been responsible only to the Committee of Management and the different subjects of science have been regarded as completely separate one from the other. As the prefatory memorandum points out, to ensure satisfactory results in the direction of assisting local industries it is import-

ant that the students should follow a suitable course of study extending over successive sessions, and that a teacher of wide knowledge and experience should be available to give counsel and guidance to the inquiring student anxious to fit himself for the industry in which he is engaged. Other important duties of the headmasters of such institutions are an investigation of the educational needs of the neighbourhood, consultation with parents, and the provision of facilities for continuing their general education in the case of unqualified students.

It is proposed that a lectureship in tropical agriculture should be established at one or more British Universities. Travelling fellowships for teachers should be provided, and research encouraged. The Board of Agriculture should collate the results of experiments conducted throughout the country, and publish those directly bearing on the improvement of agricultural practice. Courses of instruction should be provided in subjects bearing upon agriculture and horticulture for teachers in elementary and secondary schools.

The Edinburgh vacation courses in modern languages which have proved so successful in previous years, were inaugurated this session by an address from Prof. Kirkpatrick. The Edinburgh courses he held are distinguished from similar courses in Great Britain and the continent by the fact that they not only teach the language and literature of their country to foreigners, but also French and German to their own people.

The Right Hon. William McEwan, ex-M.P. for Edinburgh who gave to Edinburgh University the noble "McEwan Hall" has made the University further his debtor by establishing a fund of £6540 to be called "The McEwan Hall Endowment Fund." The annual income is to be applied towards meeting payment of the ordinary annual expenditure incurred in connection with the maintenance and repair of the Hall. The University Court, in accepting the gift, resolved to record in its minutes its deep sense of the generosity of Mr. McEwan.

The new Principal of London University, Dr. H.A. Miers, has resigned his Oxford posts as Secretary to the Delegates of the University Museum and Waynflete Professor of Mineralogy. His work as Secretary is being temporarily carried on by Dr. G. C. Bourne, Linacre Professor of Comparative Anatomy.

PRINCE August Wilhelm of Prussia has become a Doctor-in-law of Strasburg University under circumstances that are exciting much comment. He was allowed to graduate in four terms instead of six, upon the plea of his exceptional brilliancy as a student and his habit of working during the vacations: and further on the very day of the announcement of the Prince's graduation various high orders were conferred by the Kaiser upon the eight examiners and other University officials.

Two scholarships in Marine Engineering (£50 each for two years) have been established by the Committee of Lloyds in connection with the Institute of Marine Engineers.

M. Paul Wofskel, Professor of Mathematics at Darmstadt, has instituted a prize of £5,000 as an inducement to rediscovery of the famous theorem of Fermat, which has been lost for over two centuries. It will be remembered that it was Fermat who first applied Algebra to Geometry, and it was of him that Libic declared that he knew many things of which others are ignorant.

The trustees of Storells Charity, Loughborough have made an offer of £50 per annum to the Leicester higher education sub-committee.

A CONFERENCE on Democratic Education will be held at Birmingham University on October 17, under the auspices of the Workers' Educational Association.

The University of Oxford has conferred the honorary degree of M. A. upon Mr. Albert J. Mockridge, B. A. Lond., the new Headmaster of the Municipal Secondary School, Poole.

The University of Glasgow wants some £5,000 a year to meet general charges; £10,000 a year for lectureships and assistants; and considerable sums for the Faculty of Law, The Library, the Hungarian Museum and the Observatory.

Aberdeen University wants upwards of £14,000 for similar purposes.

Mr. David Nichol Smith, M.A., Edn., Professor of English Language and Literature, Armstrong College, New Castle upon Tyne, has been appointed to the new Goldsmith's Readership in English in Oxford University.

IN connexion with the Tercentenary of Milton, the Elizabethan Stage Society, under the direction of Mr. William Poel, will revive "Samson Agonistes" next December in London, and will afterwards give representations in Oxford, Cambridge and Manchester. Sir Herbert Von Herkower, who was for some years Slade Professor of Fine Arts at Oxford, has offered to paint a full-length portrait of the Chancellor Lord Curzon of Kedleston as a gift to the University.

Professor John Churton Collins whose suicide is reported, was Professor of English Literature at Birmingham University. He was an author and essayist and his publications are numerous.

AMERICA.

AN exchange of teachers between Germany and America has been arranged. One Prussian Senior Master and six probationary teachers will visit America next month and twelve American teachers will visit Germany.

DURING the International Art Congress in London held recently Mr. Henry Turner Bailey (United States) directed attention to certain experiments in the schools of the United States which seemed to send towards establishing methods of teaching young children through drawing live plants. The power to draw directly from the object was of such a great importance that any course of instruction which failed to develop it could hardly be called successful. This power developed through constant practice under guidance. The objects best adapted were the common plants.

PROF. Worwond of the Tulane University of Louisiana reported during the Congress that the tendency in the United States was towards the amalgamation of the Art Schools with the Universities. Ten or twelve Universities had departments of architecture. The extent of instruction in Art generally, however, varied greatly.

Mr. A. W. Dow, Professor of Fine Arts (Columbia University) urged that our teachers had before them the task of convincing the public that Art Education furnished the finest kind of training for children. He outlined a structural method of teaching, which he had found serviceable. In all the years of school it was possible to relate the art work to History, Geography, language and other studies. But such relation should be very obvious and simple.

PRUSSIA.

AN anonymous donation of half a million kronen (about £20,833) has been presented to the Vienna Academy of Sciences for the establishment of a "Radium Institute" in connexion with the new physics laboratories of the University of Vienna.

THE Prussian Ministry of Education has recently introduced a series of regulations for the higher education of girls in Prussia, which practically amount to an official recognition of certain well-marked changes in social conditions more particularly of the increasing aspiration of women towards a higher culture and an increasing independence. Opportunities are now to be provided for girls to prepare themselves for professional careers.

THE LITTLE DUKE

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The Educational Review.

The third International Art Congress for the development of drawing and art teaching and their application to industries was held during the first week of last month in London. No less than thirty-eight countries, including all the British colonies and India, responded to official invitation, and sent either delegates or exhibits, or in most cases both. The presidential address was delivered by the Earl of Carlisle, who deplored the small importance attached to the teaching of art in English public schools and universities. Many of the papers are of extremely high interest and they enunciate and emphasise principles that are vital to the teaching of drawing in schools. We can here refer only to the salient points in the paper of Dr. Kerschensteiner on the training and development of the power of drawing. He tells us that he spent no less than seven years in an exhaustive inquiry into the principles of experimental pedagogy, so as to satisfy himself as to the extent to which the various proposals for the reform of the teaching of drawing and the schemes connected therewith were or were not, justified. With this object in view he collected 500,000 drawings from town and village children and selected some 300,000 of these for his special inquiry. The questions he put to himself were: (1) When and how does the capacity and the desire on the part of a child show itself in graphic representation? (2) Whether it was easier for a child to draw from nature or from imagination? (3) Have children any taste for the decorative treatment of surfaces, and, if so, when and how does it develop? (4) And to ascertain by what process children showed a special

gift for drawing. It is evident that these questions concern all reformers of the methods of the teaching of drawing to children from three to fourteen years of age. The conclusions drawn by the German expert are so correct that they may be used as the basis for the drawing syllabus. From his conclusions we summarise the following propositions with the hope of leading some of our readers to reflect on them. Dr. Kerschensteiner's investigations clearly establish the following facts: Boys and girls require a different syllabus, at least in the primary school; decorative teaching should only be eliminated from the syllabus when the teaching staff show lack of artistic taste. As a rule, drawing from nature can not be successfully taught in class before the age of ten, and where systematic class teaching of drawing is begun at an earlier age it is desirable to organise drawing from memory exclusively. One of the noteworthy features of the Congress was the exhibition of pupil's work, representative of nearly forty nations, which, in the opinion of experts, demonstrates beyond doubt the claim of drawing to be included in educational schemes.

At the Cleveland meeting of the National Industrial Education Association manual training, domestic science and art, trade, agricultural and technical instruction dominated the programs and formed the chief subjects of discussion. What the Americans speak of as "cultural education" no longer reigns supreme. The National Educational Association disapproves of any education which does not include some preparation for bread winning. That industrial education is essential to national prosperity can not be questioned. Says

President Roosevelt: "Too often our present schools tend to put altogether too great a premium upon mere literary education and therefore to train away from the farm and the shop. We should reverse this process. Specific training of a practical kind should be given to the boys and girls who, when men and women, are to make up the backbone of the nation by working in agriculture, in the mechanical industries, in arts and trades—in short, who are to do the duty that should always come first with all of us, the duty of home-making and home-keeping." India is very backward in this matter. Our education has been too literary, befitting us to be only clerks or pettifogging lawyers. Our Government would do well to consider the suggestion made by President Eliot of Harvard. The latter recommends the establishment of trade schools as continuation schools for those children who are obliged to leave the regular public school at fourteen or earlier. He urges that boys should be kept under the observation of the community up to the seventeenth or eighteenth year, and he proposes to compel by law those below that age who are enrolled in no other school to attend the continuation school for part time at least. In Germany these continuation schools (*Fortbildungs-schulen*) are making rapid progress. The attending of these schools, it is proposed, should be made everywhere obligatory, both for boys and girls of the industrial classes. In these schools vocational instruction is imparted suited to local industries, but at the same time provision is made for the formation of character and the training of intellect in the susceptible age of from fourteen to seventeen years.

While in the Madras Presidency the Chamber of Commerce is endeavouring to throw obstacles in the way of the Government helping the people in their industrial development, it is interesting to note what similar institutions in other countries are doing for their progress. The Chamber of Commerce of Paris has founded a commercial academy of high rank, which is recognized by the State. This institution supports itself without subsidy from any public authority. Candidates for admission to it must have passed either the *baccalaureate* examination or a special entrance examination in which is tested their ability to write a composition in French and also one in a foreign language. The period of study is two years. In the first and second years all students must take courses in book-keeping, commercial correspondence, foreign languages, mathematics, applied chemistry, commercial products, economic geography, political economy, history of commerce, commercial, maritime and industrial legislation, both French and foreign, French criminal and civil law, laws relating to budgets and customs, labour laws, and transports. Second year students have additional courses open to them in three sections: (1) commerce and industry; (2) commerce and banking; (3) commerce and colonies. Those students that obtain 65 per cent. of the total number of marks that could be gained in the two years receive a diploma from the Minister of Commerce. With this diploma they can find admission to banks and great commercial houses; it also enables them to compete on favourable terms in certain State examinations. Those that obtain 55 per cent. of the marks are given a *certificat d'études*. By its work

during the last twenty-seven years this *Ecole des hautes études commerciales* has proved its intrinsic usefulness. We have in this presidency a few commercial institutions of a very inferior kind, but none of a high academic rank. In England provision is often made in its Universities for the pursuit of commercial studies. We hope some steps would soon be taken to remedy this defect in this presidency.

Various attempts are being made in England to provide suitable training for all grades of social workers. All types of social workers have to possess certain inborn qualifications, such as a great love for humanity and a strong desire to share the gifts that life has bestowed. Even when these essentials are present, public workers need to equip themselves with business methods, discrimination, and knowledge of the world and of human character. For this a two-fold training is necessary. Both practical experience and study are essential. The worker must be acquainted with the lives, traditions, and circumstances of the different grades of the working classes, and must also know at first hand the problems and temptations that beset the poor. Such knowledge can be obtained only through work that entails regular home-visiting. The social worker must also know the laws which control municipal and industrial life, the principles and methods of relief, whether administered by the State or by public or private charity, the objects and the rules of the various societies that exist for the alleviation for the different kinds of suffering. The University of Birmingham has arranged a scheme for training social workers. The scheme includes lectures on the British Constitution and Local Government, economic analysis and methods of statistics, industrial

conditions, sanitation and hygiene, social law and social ideals. In addition all students are expected to undertake some practical work in connection with a recognised society or institution. The University and settlement fees for tuition and board come together to about £50 for the session. A year of preparation such as is offered at Birmingham will be highly profitable to many social workers.

Geography was once regarded as a collection of facts to be memorised by pupils, and in teaching it the teacher endeavoured more to store the mind of the pupil with a certain quantity of information than to cultivate the reasoning powers. At the present day geography is regarded as a science, and like every other science the teaching of geography has to be based largely upon individual observation and experience, i.e., personal practical knowledge gained by the pupils in the class-room or laboratory. "How to apply this principle of observation and self-help to geography as it is applied to the experimental sciences is a difficult problem, for which only a few practicable solutions have been put forward. Many schemes have been published, and they have shown teachers, inspectors and examiners that physical features are the determining influences in the character and distribution of peoples and industries, but none of them has stated exactly how, under the exigencies of actual school conditions, it is possible to put into practice the progressive opinions which the schemes express. Unless taught by scientific methods, geography based upon physical structure is too difficult for the juvenile mind to comprehend, and more unsatisfactory results are obtained than when pupils were only expected to remember details without inquiring

into causes and consequences. The yoke of the geographical teacher and pupil has not yet been made lighter by the new views, but more has been put upon it, so that whereas they were once chastised with the whips of examiners, now they are chastised with scorpions in the form of inspectors, who demand the same tale of bricks but neglect to provide the straw. Under the old system teachers knew what to do, or rather what to make the pupils do, but they are now expected to construct their courses on scientific principles without being shown how this may be accomplished. The result is that though there has been a change in the point of view, the method of study remains the same in the great majority of cases."

The scientific method demands that the facts upon which conclusions are based should be presented to the pupils and, so far as possible, left to tell their own tale. But there are obvious difficulties. Reasoning is impossible without data. Can the climate of Chili and the persistence of the nitrate beds be discussed without knowing where Chili is? If geography is to be a subject of examination, the examiner has to test not only the reasoning power of the examinees but also their knowledge of facts. Consequently a certain amount of topographical drill becomes essential. Only when it is realised that the main purpose of the study of geography in the school is the promotion of mental efficiency, will the teaching of geography according to scientific methods displace the ordinary method of providing particulars to be swallowed by the pupils in the class-room and vomitted in the examination room.

The Council of Legal Education, representing the four Inns of Court, seems to be dissatisfied with the present training of barristers. It is found that the knowledge of the young barrister is too bookish and that he is entirely ignorant of matters of etiquette and procedure. An important new departure is therefore announced for the new term. In order to remedy the defect it is proposed to institute two courses of lectures. One will bear on the work in a barrister's chambers, and the other in court. It is interesting to note that a century ago the aspiring barrister learned his work almost entirely in the chambers of a practising lawyer.

It is now recognised that the teaching of hygiene and physical exercises in both primary and secondary schools is as important as instruction in any other branches of knowledge. For this reason the Board of Education in England makes a knowledge of the methods of teaching and the aims of physical education one of the necessary parts of the equipment of a primary school teacher. Such equipment would be useful also to the teacher of the secondary school. Arrangements should be made in training colleges to impart to all students a knowledge of hygiene physiology, gymnastic exercises, and so much anatomy as bears on physical training including the study of the theory of movements. Such students would be in a position to take charge of physical education in schools besides being teachers of ordinary subjects.

By introducing a series of new regulations for the higher education of girls in Prussia, the Prussian Ministry of Education has given official recognition to higher education of girls in Prussia.

to certain well-marked changes in social conditions, especially of the increasing aspiration of women towards higher culture and greater independence. The tradition that a woman's sphere in life is that of the housewife no longer holds sway, and women desire opportunities to fit themselves for professional careers on the same footing with men. Rightly has the Prussian Government decided to provide opportunities for girls to prepare themselves for professional careers. In future, therefore, at a certain stage in the school course which should in general be reached at about the age of thirteen, the pupils, the whole of whom up to that time have undergone the same general course of study, will begin to be classified according to the several careers they wish to pursue. Those that desire to go to the university will enter special classes and learn Latin, and at the end of two years they will be divided into a modern and a classical side. In the case of girls whose ambitions lie in other directions the ordinary school classes will be continued up to the highest form—that is to say until

about the age of sixteen. They can then either leave school or pursue their education along one or other of two main channels. Thus, those that wish to become teachers or governesses may go through a four years' course of special training, one-fourth of which will be devoted to practical training, while other students can enjoy the benefits of a course of advanced instruction in general culture and the domestic arts. The whole scheme appears to be thoroughly well planned and is the result of careful consideration and mature deliberation.

We note with regret the death of Prof. Friedrich Paulsen of Berlin. He was the greatest authority on the history of German education. His larger work, *Geschichte der Gelebsten Unterrichts auf den deutschen Schulen und Universitäten*, and his smaller work, *das deutsche Bildungswesen in seiner geschichtlichen Entwicklung*, are books well-known to students of education. Both have been translated into English.

ON GOVERNMENT AND PATRIOTISM A PAMPHLET IN TAMIL

BY
C. SUNDRIER, B.A.

Price—As. 3.

SRINIVASA VARADACHARI & CO., TRIPPLICANE AND ESPLANADE, MADRAS.

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SANSKRIT TEACHING IN SCHOOLS.

THE Madras University authorities have at last opened their eyes to the fact that Sanskrit scholarship has not hitherto been given the recognition it undoubtedly deserves, and that something tangible ought to be done in the near future to encourage the study of Sanskrit. Accordingly a proposal was brought forward before the Senate that degrees should be instituted in Sanskrit, and foundations laid for the building up of an Oriental side to the University. Fortunately the proposal has now been sanctioned, but the storm of opposition it had to face during the deliberations of the august body of senators was well nigh formidable, so much so that it looked at one time as if the proposition would be knocked on the head. The opposition came not only from within, but also from without. The Punjab University, it was announced in the newspapers, had made an experiment with the Vernaculars, and had signally failed; and an ominous note of warning was sounded by the press, which note so timed itself that it reached the ears of the senators at the time when some of them were crying loudly against the institution of Oriental degrees. But the people who instituted this comparison between our University and her younger sister entirely lost sight of the point that there was no similarity at all with

respect to the curriculum of Oriental studies sought to be introduced in Madras and that in force in the Punjab. What was done in the Punjab was an attempt to teach Western science and the products of Western thought through the medium of the Vernaculars, while in Madras more importance was sought to be attached to Oriental literatures. Punjab's attempt may be commendable in itself, but such attempts in the present state of the Indian languages are bound to be failures, as no wonder Punjab's was. There are two causes contributing at present to this failure, first the lack of an easy, natural, and flexible modern style in many of the Oriental languages, and secondly the absence of any large number of Indians who can be said to be masters in the subjects in the same way as Westerns are, and who therefore cannot write simple and clear treatises in the Vernaculars on the various Western subjects which form the major part of the curriculum in our Universities. Taking science for example, if men like Dr. Jagadis Chunder Bose can spare time from their scientific researches, and will willingly undertake to write textbooks in the various vernaculars, it will be a good time, indeed, for India.

Setting aside, then, the lessons that can be learnt from the experience of the Punjab

University as irrelevant, let us turn to what is now being done in Madras to encourage Oriental learning. Ere long, definite details about a scheme of Oriental studies qualifying for degrees will be announced. But until we know exactly what those details are, we will not be in a position to say how the scheme will work, and whether any real benefit will accrue to Indian youths as regards the Oriental languages. However, let us examine what the present state is, and whether a knowledge of Sanskrit and the Vernaculars now insisted on in the various University Examinations has been of any use to our graduates and under-graduates. The following remarks refer to Sanskrit alone, but similar remarks will apply to a great extent to the Vernaculars also.

In the lower classes in High Schools, the Sanskrit alphabet is taught, in a few cases perhaps by Sanskrit graduates but in most cases by Pandits who are generally unable to write. The formations of the letters of the Devanagari alphabet are so peculiar that merely looking at printed characters does not in the least help a beginner to write the letters correctly. Each letter must be traced on the blackboard and the details of the various component parts of a letter must be carefully explained in their proper sequence. All this, the poor Pandit is unable to do. Again Sanskrit is a language which contains a large number of aspirated letters whose pronunciation can be learnt only by careful and constant practice. A natural effect of the carelessness with which the alphabet is taught is the remarkable fact that even students in the College classes do not know how to write certain letters at all, and cannot discriminate between the aspirate and unaspirate letters belonging to the same class.

After learning the alphabet, pupils are usually taught Bhandarkar's First Book of Sanskrit which, though a good book in itself must be taught by an able teacher, if it is to be really useful to students. Very often this book is taught by Pandits who have not got a sufficient knowledge of the English language to be able to construe the rules of Sandhi, etc., given in that book. Even as regards the vocabulary, the English meanings of the words given in the book are understood neither by the teacher nor by the pupil and the Vernacular meanings given by the teacher are not cared for at all by the pupil who, having to answer all Sanskrit papers in English merely contents himself by getting up by heart the English meanings in the book whether he understands them or not. As the student passes on to higher forms, Sanskrit grammar is gradually cast to the winds, and books containing Sanskrit passages in prose and poetry are prescribed as texts, which are taught by Pandits through the medium of Vernaculars—a very good thing indeed if the students pay attention to what is being taught in the class which, as a matter of fact, they never do. To answer Examination papers students solely rely on catch-penny annotations published very often by irresponsible and ignorant money-seekers. These publications in most cases, contain lots of inaccuracies and mis-statements which however are devoured greedily by students to whom everything in print is nothing but gospel truth. It is a thousand pities that no censorship has as yet been established in connection with these harmful annotations which are avowedly designed for 'educational' purposes. It would be very well indeed if the officer whose duty it is to examine the contents of published books with a view of finding whether there

are no violations of decency or decorum, will deem it a part of his duty to examine these annotations from the educational point of view.

As a result of all this, the knowledge of Sanskrit displayed by students in the various University examinations is deplorably scanty. Even graduates in Sanskrit are so remarkably ignorant that they are not able to construe and interpret correctly a tolerably easy Sanskrit passage in Prose or Poetry. One important cause which contributes to this state of things is that rarely in any High School there is provision made to teach pupils translation from Sanskrit to English and *vice versa*. Students are required to answer Sanskrit papers in English, but the impression seems to prevail that there is no necessity for special equipping to enable students to do this. Translation from one language to another is admittedly a difficult art. If we try to be too literal we run the risk of making the language we translate into read like an entirely new language. In such cases if we do not have the original passage by our side we are not able to make anything out of the translation. On the other hand if we take great pains to make the translation read as well as possible, there is the danger of the translation not being faithful. To strike a golden mean between these two extremes is a difficult task indeed. And yet boys are very often left to themselves to do this part of their work, and the result is that not only, as mentioned before, are so-called Sanskrit students unable to make out the meaning of a Sanskrit passage, but they are unable in a more marked degree to write two sentences together in Sanskrit. A good training can be given in the direction of making boys write Sanskrit well by giving them exercises

in Composition. They may be made to transform Sanskrit sentences from one form into another, to paraphrase passages in Prose and Poetry and to write short essays on easy common-place subjects. But in many schools that there is such a thing as Sanskrit Composition is never even dreamt of.

Another defect of the Pandits is that they do not know at all to draw up or value question-papers. As regards the former, first they have not got any idea of the amount of time necessary to answer a given number of questions. Even students of decided ability well-prepared in the subject cannot answer a paper set by a Pandit in the prescribed time. Secondly they have no sense of proportion. All the questions in a paper very often refer to one and the same part within a prescribed portion. Thirdly most of the questions in a paper are of exactly the same nature, the wording of the question perhaps being slightly different in different questions. For example, "Give the meaning of," "Explain," "Paraphrase," "Annotate," "Explain with reference to context,"—these are consecutive questions in a paper. Next as regards the valuation of papers, Pandits are not able to do justice to this part of their work in as much as they cannot make out the English written by the students. What they usually do is to call in some person who has just a mere smattering of both English and Sanskrit, who usually happens to be himself a student of perhaps a higher class, and the outcome of this inevitable but clumsy arrangement is that boys do not get marks in proportion to their merits, but only in proportion to the degree of personal acquaintance which the Pandit has of them.

The impression that would most probably be formed in the minds of readers of the

above paragraphs is that I have unduly vilified the Pandit class as a whole, but I may say that I have stated nothing but facts with regard to the truth of which others who know anything of Sanskrit teaching in schools will support me. But all this state of things is no fault of the Pandits themselves for they cannot do anything better under the circumstances. A remedy for this state of things cannot evidently be supplied by substituting any other teachers for the Pandits, for in the present state of Sanskrit education on Western lines in India it will be impossible to find efficient substitutes. Ordinary graduates who pass their B.A. with Sanskrit as their second language, forget the little knowledge that they possessed as soon as they enter life. It is only first class graduates in Sanskrit or Masters of Arts in the subject who can be said to have a knowledge which though not equal to that of the better class of Pandits, at least will approach it. But these graduates will not care to take up the non-lucrative and therefore unattractive post of a Sanskrit Pandit in a High School. In this connection, I may be allowed to plead for a better scale of pay for Pandits and also a better treatment of them at the hands of the headmaster and the school-staff.

Consequently for a long time to come, we must have Pandits in our schools and colleges until the Oriental side of our University is firmly built and we can get well-equipped Sanskrit scholars who are well-up in English also. But we can make the teaching of Sanskrit by Pandits more efficient by insisting that every candidate who applies for a Pandit's place should have, above everything else, a thorough knowledge of Vyakaranam or Sanskrit Grammar, and by attaching a graduate assistant to the Pandit who will do

the translation and help the Pandit in the valuation of papers. Many of the Pandits who are now on the staff of High Schools are people who have not made a systematic study of Sanskrit Grammar and therefore besides being unable to teach Sanskrit Grammar, cannot explain the formation of words which may occur in the text. In addition to possessing a knowledge of Vyakaranam, a Pandit must of course be well read in the important Kavyas, Natakas and Works on Alankara or Rhetoric. With these qualifications and with an English knowing assistant attached to them Pandits can be made to turn out very solid work indeed.

In conclusion, let us hope that the reforms adumbrated in this article will be given a trial in some of our High Schools, and that a better class of Sanskrit Matriculates will hereafter enter the portals of our University.

K. S. P.

MATHEMATICS.

QUESTIONS FOR SOLUTION.

15. [P. V. KRISHNAIAH, B.A.] x, y, z, u are four unknowns related to one another in the following manner :

$$\begin{array}{ll} x + 2 & \text{is a square say } a^2 \\ y + 2 & \text{'' } b^2 \\ z + 2 & \text{'' } c^2 \\ u + 2 & \text{'' } d^2 \\ xy + 18 & \text{'' } e^2 \\ yz + 18 & \text{'' } f^2 \\ zu + 18 & \text{'' } g^2 \end{array}$$

given that $a + b + c + d + e + f + g = 158$, find x, y, z, u .

16. [B. KRISHNAMACHARI, M.A.] If n be a positive integer, show that

$$1 - \frac{1}{2} + \frac{1}{3} - \dots - \frac{1}{n} \quad (n \text{ even})$$

$$= 2 \left(\frac{1}{n+2} + \frac{1}{n+4} + \dots + \frac{1}{2n} \right)$$

$$1 - \frac{1}{2} + \frac{1}{3} - \dots + \frac{1}{n} \quad (n \text{ odd})$$

$$= 2 \left(\frac{1}{n+1} + \frac{1}{n+3} + \dots + \frac{1}{2n} \right)$$

17. [P. V. KRISHNAIAH, B.A.] The remainders after dividing 3, 7, and 9 times a certain number severally by 30 form, when added together, a number which will leave a remainder 11 when divided by 30. Find the original number.

18. [P. V. KRISHNAIAH, B.A.] $ax + by + c = xy$. Devise a method of easily finding integral values of x and y which satisfy the above equation where a, b , and c are integers.

19. [M. KANNAN, B.A., L.T.] If a circle be described to touch a parabola and pass through its focus, shew that the line of intersection of the two curves shall pass through a fixed point on the axis of the parabola.

READING ROOMS—THEIR EDUCATIONAL INFLUENCE.*

My first duty—one which I discharge with the greatest pleasure—is to thank you for the honour you have conferred on me in asking me to deliver the valedictory address of the Literary Society this evening. I only regret that the pressure of duties incidental to our relations in another place compels me to repay your kindness and trust rather inadequately.

It is a valedictory meeting that has brought us together. We have come to say farewell for a time to the Literary Society. To some, the farewell means only, the hope of rejoining it after a healthy and pleasant interval which will make the re-union all the better. Others have reached the term of four or five years' association with it, and farewell to them means perhaps a real parting.

* Paper read at the Valedictory Meeting of the M. G. M. High School Literary Society by Mr. A. J. John, B.A. L.T., one of the Vice-Presidents with M. R. Ry. N. Madhavan Pillay Avargal, B.A. B.L., District Munsiff, Chengannur in the chair.

To all such, all the members of the Matriculation class and others I may say in the name of the Union we hope it is a last farewell.

My confidence in the members of the Literary Society, my appreciation of the subject on which I wish to address a few words, my earnest desire to see a public reading room opened very soon in this growing educational centre; these and similar reasons have induced me to undertake a duty to which one of maturer experience and more imposing success than myself would, I feel, have done better justice.

Although many delight to talk of the good old days when everything was bright and prosperous yet it is a fact as plain as anything and seen almost on every page of history—ancient, mediæval or modern, that man is progressing day after day, year after year, century after century,—Marconi's Wireless Telegraphy, International Exhibitions, Parliament of Religions, Peace-Conferences—these stand out to prove the truthfulness of the aforesaid statement. All these point out distinct lines of progress though we have not yet and may not soon be able to reach that condition—which exist in the minds of dreaming socialists who delight to be called protectors of the common wealth and benefactors of mankind—viz. the formation of the universal empire and the universal church.

It is not likely to be possible that we should look into the history of the whole world therefore from the giddy heights of generalization let us descend to the comparatively low elevations of particular times and countries.

For us the true sores of the soil no history is calculated to be more interesting than that of India, the wonderland of the East. The history of ancient India is a story of human culture and progress for a period of 30 centuries. Afterwards during the period of Aryan decline India was suffering under the Muhammadans. Though India and the Indians suffered much in certain respects yet there was progress as shown by the magnificent buildings throughout North India.

While the Hindus were recovering their lost prestige the European nations appeared on the scene. A host of ill-disciplined Asiatics being powerless against a few well-trained arms of Europe, India bowed her head before the conquerors. The Indians conquered India for the English. At first sight the statement seems paradoxical. If you go deep, the paradox exists no more. Had it not been for the Indian regiments raised in India the English would not have been able to conquer India as they have done in the days of our forefathers.

Professor Seely in his "Expansion of England" has pointed out plainly and emphatically that when the day comes—and may it be long postponed—for the English that they are no longer able to raise an Indian regiment it would mark the decline of the British power in India directly and all over the world indirectly because India, to quote the words of Lord Curzon is the pivot of "the British empire."

The British occupation of India has conferred great benefits upon the Indians among these, security of life and personal property, spread of elementary and higher education stand prominent.

English education has enabled the educated young and old, rich and poor, high and low to form several organized bodies, *e.g.*, Pleaders, Associations, Teachers' Guilds, Provincial Conferences, and the National Congress.

The desire for the furtherance of education (not the examination mania of the present) and to be in touch with the authors who have given their lives for the sake of posterity and other reasons partly disinterested and too numerous to be mentioned, has induced some gentlemen of culture to institute reading rooms and libraries.

I do not think that any apology is necessary for this new attempt on such a subject, old yet new. My audience—learned as it is—will readily acquit me or at worst will censure only the performance and the performer of the task; not the

choice of the subject. In English public schools the reading room with the library is a necessary and a universal feature both of the school and of its constituent houses and that no small part of the education there given lies in what the boys absorb—under advice—from the books of the school library during intervals of leisure and in the vacations.

It is rather difficult to give a definition free from absolute or relative objections. Most of us know that small books of general geography have defined a volcano as a burning mountain but students of physical geography or physiography know it for certain that there is no definition perhaps as ludicrous and fallacious as this one. It is enough for my purpose to give a brief description of a reading room.

It is a public place where books, magazines, and newspapers are kept for the benefit of the people who promise in one way or other to abide by the rules made by an authoritative body.

These rooms are sometimes instituted by the Government, the people or by both the Government and the people. Reading rooms are places where men of different standings meet together on a level of brotherhood to discuss matters of public interest. These are places which have extended right hands of fellowship to statesmen when pressed by political affairs, to merchants in times of commercial crisis, and to philanthropists when opposed by foes within and enemies without. Teachers, lawyers, medical men, princes, sovereigns and a host of others all alike have found rest and comfort within the walls and among the living though dead Mandarins who are sheltered under the roofs of these buildings.

The secret of the success of a reading room is the same as that of the time-honoured post office. It is not possible for any single person to read a fair proportion of the books that are produced during every 24 hours that the earth turns round its own axis.

Most of the books produced are either interesting or instructive to some members of the race of mankind.

Further many there are who love books and the knowledge treasured in them but they are not in a position to have possession of the hidden treasure because they live from hand to mouth or are not in the condition in which some money could be spared to be spent on books.

It is not for all to become like the Oxford clerk or scholar described by Chaucer in his Prologue to the Canterbury Tales. There the keen observer of nature and mankind Chaucer has described him (the scholar) in old English which when freely rendered into modern runs thus: "his overcoat was worn and threadbare, he would rather have at the head of his bed 20 books in black and red covers treating of Aristotle and his philosophy than rich robes or merry harps, all the money he could obtain from his friends was spent on books and learning."

Such being the case a reading room with a library of the works of standard poets and prose-writers and a number of dailies and periodicals which are but records of events and facts in different parts of the world, is calculated to be advantageous.

Now let me draw your attention for a short time to some of the advantages derived from reading rooms.

A reading room through the medium of books and newspapers instruct us without rods, without hard words, said a famous author. Whosoever therefore acknowledges himself to be a zealous follower of truth, of happiness, of wisdom, of science must of necessity make himself a lover of reading rooms and the books and newspapers in them.

A reading room furnishes us with friends, whose society is generally agreeable to almost all. They are of all ages and every country. They are always ready to be at any one's service. They could be dismissed easily when we are displeased. They will teach us how to live and

how to die. They open, in short, the various avenues of all the arts and the sciences and upon their information we may rely safely in all emergencies.

Reading rooms supply guides in youth and entertainments for old age because the books and the papers support us under solitude and keep us from being a burden to ourselves. When we are weary of the living we may repair to the dead who have nothing of peevishness, pride or design in their conversation. Reading rooms enabled Lord Macaulay to enjoy an happiness which he prized more than that conferred by wealth and fame; rank and talents.

Reading rooms enable a young man to be old without either wrinkles or grey hairs privileging him with the experience of age without either the infirmities or the inconveniences thereof.

Reading rooms encourage desultory reading which has a charm of its own and widen the field of general culture. There are of course some books which we ought to read mark, learn and inwardly digest but these are exceptions. It is probably better to read a great number of books quickly dwelling on the best and more important passages. No doubt we shall lose much but we gain more by ranging over a wider field. A great authority on reading has said it is well to read everything of something and something of everything. This could be done to advantage in reading rooms and public libraries.

While we are in reading rooms we could be in all quarters of the globe. We may go round the world in 8 hours when reading "Round the World in 80 days."

Darwin, Arnold, Lytton, Kingsley, Ruskin, or Drummond will show us as much more perhaps than ever we should see for ourselves.

"They are priests to us all

Of the wonder and bloom of the world

Which we see with their eyes and are glad."

The world itself knows no limit for us. Adams

and Leverrier will carry us far away into Neptune.

Then "we know not the gauge of tune
Nor wear the manacles of space"

History stretches out behind us and geology will carry us back for millions of years before the creation of man even to the Palæozoic, Meozoic, and Cainozoic periods.

Reading rooms are forming and will continue to form a new class of readers. At the same time they intensify the love of reading among those who have had a fair amount of it (reading). The readers of this generation in civilized countries are the lawyers, doctors, teachers, manufacturers and shopkeepers but of the next generation will be the labourers and the mechanics. The former work with their head, when their daily duties are over the brain is often saturated and exhausted. Of their leisure much must be given to air and exercise. The labourer and the mechanic work for much shorter hours, they have during their work-time taken sufficient physical exercise therefore a good deal of their leisure could be given to reading. Surely they have not yet done so and there are reasons for it. They did not get proper education in elementary schools and had no easy access to standard authors.

Reading rooms teach us practical lessons of great importance, e.g., punctuality, the lack of which quality has made some of the white men of the West to look down upon their brethren of the East; patience, which most of us lack because of climatic, and other local causes; order, Heaven's first law, and humility which is "sweeter than honey and more precious than rubies."

Reading rooms because they afford a common meeting place enable and encourage the coming together of several persons. This meeting together assists in the gradual destruction consciously or unconsciously of the projections in the minds of individuals. Thus the minds become smoothened and rounded like the fragments of rock, torn away by rushing water, have their

sharp corners broken off so as to become rounded into smooth pebbles by continual rubbing and pushing along. A reading room enables the production of books. The half-sleeping qualities of embryo authors become revived and these men are stimulated to produce literary works which the contemporaries of the authors as well as their children's children would not willingly allow to sink into insignificance and practical decay.

A reading room if we only rightly use it may become a true paradise on earth—a garden of Eden, without its one drawback, for everything is open to us including and especially the fruit of the tree of knowledge for which Adam and Eve sacrificed all the pleasures of Paradise. Here we may meet with the most important histories, the most exciting volumes of travels and adventures, the most interesting stories, and the most beautiful and sublime poems. We may meet with the best editors, correspondents and critics, the best statesmen, philosophers and historians. Is this nothing? Is this a small thing? Far from it ought to be the unanimous reply.

Every shield has two sides, therefore having spoken so much of the advantages may I speak a few words about the disadvantages resulting from the opening of a reading room. If proper care be taken most of the disadvantages would be avoided.

Reading Rooms may prove prejudicial to the progress of study in the case of certain students. Some of us know of would-have-been mighty intellects which have suffered from undue attention to extra books and frequent visits to reading rooms. Let the present examination mania, which has taken hold of the parents and their children, disappear then these so called lost or misdirected intellects would shine forth in their glory which is now obscured by clouds.

It is one thing to have a reading room opened, it is quite another to use it wisely. It has often been a matter of astonishment to many that how little care people give to the selection of what

they read. Books are almost innumerable, our hours for reading are alas! very few. Hence many people read almost by hazard. Reading rooms if not properly taken care of will encourage reading by hazard.

Reading rooms may sometimes cause the friendship of some to wax cold. The proposition or propositions brought up by some one individual or individuals may not meet with the assent of the majority. When this takes place some one may become offended and the misunderstanding may be made to show itself forth even outside the reading rooms. But we should not look upon individual opinions and views as gospel truths and they should never be allowed to cause public danger or troubles.

I do not mean to weary you gentlemen any more by enumerating the advantages and disadvantages consequent to the opening of a reading room.

Now coming to matters nearer home may I point out to you why we should try our best to have a reading room opened in this growing town.

It is true that there are among us many who have tasted to a certain extent of that English Literature which boasts of Shakespeare, Bacon, Newton, Carlyle, Burns and Addison but now, they are not properly enjoying the fulness of that, the earnest of which they had. Many have got a desire to read but standard authors are not at their command.

You know of the existence of two flourishing High Schools in our town. To speak well within bounds these School-libraries contain but a handful of books and tracts. These books and tracts have created a desire in the minds of some of the boys to go beyond the region of their text books. Is it not our business not to allow that desire to die away but make arrangements for the proper growth and development of it?

The Reading Room is one of the several means which will make souls tempered with fire, fervent, heroic and good. It is good that existing evils should be felt. To feel an evil or to

point out its cause goes but a little way to curing it.

There is a tendency among us to depend for the cure of admitted evils upon some external agency, e.g. the Government or the University. They think that everything will come right if only the Government makes the necessary arrangements. For us there is not much hope of getting help either from the Government or the University as far as the opening of a reading room is concerned.

The road may be as smooth as it can be made but in a successful journey if a man has no legs or will not use them there is little hope of success.

We have heard of the advantages to be derived if a reading room is opened; we have seen that interests in the rising generation call forth immediate action, we have also seen that there is no hope of a reading room to be opened by any external agency.

Then it is only by the deliberate efforts of individuals in their individual capacities in the face of their own individual difficulties through the silent force of example—it is only thus that a reform can be effected on such a scale as it is at present urgently required.

Some months hence—how many I know not at present—we many be enabled to give a welcome to our reading room almost royal in its heartiness and spontaneity. These are not all excitement and empty words.

In regard to this pressing need of supplementing our education, of inspiring it with better aims—in regard to this and every other matter in which we see the evil tendencies are strong and powerful—let us be true to our deepest instincts, dare if need be to side with the minority, dare even to endure terrible things, dare to face seeming unpopularity and misrepresentation, then after sometime our countrymen will begin to gather round us and will sooner or later arrive at some not inadequate appreciation of our efforts and of the cause we champion.

If any fair proportion of us will meet the present need by resolute consistent action we will have it in our power to make no insignificant contribution to the well-being of our Country and our Race and to the fulfilment of the glorious purposes of God.

PROFESSOR SELBY.

A Special Convocation Meeting of the University of Bombay was held in the Hall of the University on Tuesday, the 29th September 1908, H. E. Sir George Clarke, Governor of Bombay and Chancellor of the University, presiding. The Convocation was held for the purpose of admitting the Hon'ble Mr. Selby, Vice-Chancellor of the University and Director of Education for the Bombay Presidency, to the Honorary Degree of Doctor of Laws. Just before six o'clock the procession of Fellows, Deans, Syndics, etc., entered the Hall and advanced to the top of the aisle where they formed in two lines, through which H. E. the Governor and Mr. Selby proceeded to their seats on the dais. Mr. Justice Chandavarkar at once rose to present Mr. Selby to the Chancellor and, in doing so he said:

Mr. Chancellor and Gentlemen of the Senate: I beg to present to you, Sir, the Hon'ble Mr. Francis Guy Selby, and request on behalf of the Senate that you be pleased to confer on him the Honorary Degree of Doctor in the Faculty of Law. Under the Indian Universities Act, the recipient of this degree must be recommended by the Vice-Chancellor and at least two-thirds of the members of the Syndicate as a fit person to receive it by reason of his eminent position and attainments; further the recommendation must be supported by at least two-thirds of the Fellows present at a meeting of the Senate; and finally it must be confirmed by the Chancellor. In the case of Mr. Selby these conditions have been more than fulfilled. Before the Syndicate moved in the matter, there had been widespread public feeling that the distinguished services of Mr.

Selby to the cause of higher education in this Presidency and his worth as a scholar should receive recognition at the hands of this University by means of the Honorary Degree of Doctor of Laws. That public feeling found powerful support and appropriate expression in the address which Your Excellency delivered at our last annual Convocation. The Syndicate were unanimous in making the recommendation. The Senate unanimously supported it. Mr. Selby's eminent position and attainments are well-known and attested by the fact that his name is a household word among, at all events, the educated classes in the Presidency. For many years he was Professor of Logic and Moral Philosophy, and Principal in one of our leading Arts Colleges. He is now the head of our Educational Department. Since February 1906, he has held the high office of Vice-Chancellor of this University. Even before he rose to these two eminent positions, his marked reputation as an educationist and scholar had attracted the notice of the Government of India, so much so that when in 1900 Lord Curzon, then Viceroy of India, held at Simla a Conference of the Directors of Public Instruction and Vice-Chancellors of the Universities in the different provinces of British India, Mr. Selby, who was then Principal of the Deccan College, was specially invited to join the Conference and help it with his knowledge and experience. The only other person similarly honoured was Rev. Dr. Miller from Madras. But what forms the most striking feature in Mr. Selby's career amongst us is his long honourable and memorable connection with the Deccan College. That connection extended over a period of nearly 29 years, which means that seven generations of students passed through his hands. I say seven generations because, according to our University curriculum, each generation has an academic life of four years in the Arts course. During the period of 29 years Mr. Selby on two occasions left the College temporarily to act as Principal

of the Rajkumar College at Rajkot, once in 1880 and for a second time in 1882.

But it was short absence which only urged sweet return to the institution he so dearly loved and after 1882 he adhered to it with unfailing devotion, declining to move out of it, whether for better pay or prospects. He made the Deccan College the main mission of his life and closely identified himself with its interests. That College has an advantage which few colleges in this Presidency have. It stands on a beautiful spot in the midst of charming natural scenery, giving it a true academic aspect. Mr. Selby's great endeavour was to improve upon what Nature gave. There was no year when Mr. Selby did not want something done for the College, and I have heard one of your predecessors say that when Mr. Selby wanted a thing to be done no Governor could say "Nay"—so winning was his ardour coupled with his energy. When Mr. Selby first joined the College in 1877, the College compound was but 2 acres. When he left it two years ago, the 2 acres had grown into 135 acres. And the College now possesses fine and commodious residential quarters for students, a beautiful garden, a Gymnasium and Gymkhana, with a Boating Club and a nice Reading Room, all the result of Mr. Selby's persistent efforts to adorn the College. By means of these institutional arrangements, he sought not only to develop the physique of his pupils and afford them facilities for healthy recreation and amusement but also to enable them to acquire the virtues of self-help and self-reliance. Mr. Selby joined them in their sports; took them out with him now and then for walks; mixed in free and friendly intercourse with them; and entered with an almost personal realisation into their thoughts, lives and wants. No wonder that this largeness and quickness of sympathy brought him the attachment of his pupils. Mr. Selby's work as a Professor of the College only served to heighten that attachment. He was all

along Professor of Logic and Moral Philosophy; he also lectured on English Literature, particularly on Bacon and Burke, and I have heard his lectures spoken of by his pupils in terms of great admiration. Of his lectures on Moral Philosophy I have heard them say that they were not only learned but also of a highly inspiring character. I listened to two of those lectures some years ago and the impression they gave me was that they were what all lectures on Moral Philosophy ought to be—to borrow the language of one who is a recognised authority on the subject, they were such as to inspire in the minds of the hearers a sense of the infinite in man and to call forth a sigh of aspiration for growth from what man is to what man ought to be. Mr. Selby was equally at home in the matter of discipline. To him the conduct of his pupils was a matter of daily concern. We are apt to think, because so it is said, that knowledge is power; but knowledge is power only to this extent, that it gives us command over our material surroundings—over Nature in fact. But the power that goes to make a vigorous and self-respecting manhood is different. It comes from the exercise of power over our own-selves, which is acquired by means of subjection in youth to discipline, by a careful watch over our temperament, our tongues, and our temptations. This has been Mr. Selby's teaching. What he strove daily to impress on the minds of his pupils was that majestic edifices and stately groves, which form the exterior symbols of a college should be answered by corresponding dignity within, by the nobility of behaviour of its inmates arising out of habits of self-respect and self-restraint. There was no student whom Mr. Selby did not know; everyone's face was familiar to him; he knew the strong and the weak points of each; his watchful eye was quick to discern when a student had gone wrong and had disobeyed rules of discipline and correct behaviour.

But a far more valuable service Mr. Selby has

rendered to his pupils consists in the light of the life which he has himself lived in their sight. Physically, a life in open air, habits of regularity and method, movements in which the spirit of order prevailed as much as to say "Order is Heaven's First Law," intellectually, his increasing love of knowledge and communion with the noble living and the noble dead, morally, his scrupulous sense of honor and uprightness, his unmitigated contempt for sham, hypocrisy, low cunning and intrigue—in short, his personal life and example have been to those brought within the range of his influence an education even greater than that afforded by his lectures, his discipline or his friendship. Carlyle has somewhere said that health and holiness ought to go together—that life ought to be a life of wholeness, with no hole in it, a life of completeness, in which the physical, the intellectual and the moral elements of strength are nicely blended so as to give symmetry to character and poise to life, producing what the ancient Greeks called harmony of being. It was this conception of life that led ancient Aryans to describe a teacher of young men by a most apt expression the like of which I have not come across in any of the other languages with which I am acquainted. They called him an "Acharya," one who practised in his life what he taught others. Mr. Selby has been to his pupils a true "Acharya." As of any evening after a day's hard work at the College he was seen moving out of his residence adjoining it and going for his long walks with a copy of Dante in his pocket, musing over "the silence that is in the starry sky," "the sleep that is among the lonely hills," what pupil of his was there who, as he watched the sight, did not feel tempted to exclaim; "There goes the Deccan College embodied in personal form, Moral Philosophy vitalised." What student of his was there who did not feel encouraged to imitate the example of that life?

I have so far, Sir, attempted an analysis of

Mr. Selby's career at the Deccan College. My analysis must perforce be feeble because of my incompetency to do adequate justice to that career and also because it is as difficult to analyse fully the work of a teacher of young men as it is to analyse the love of a parent. Both mould young lives by what is more or less silent influence. It is the silence of the influence that is perhaps its most eloquent testimony. I must say a word with reference to what Mr. Selby has done in other directions. I am sure Mr. Principal Paranjpe and his colleagues, the Professors of the Fergusson College, will bear me out when I say that to them Mr. Selby's guidance and advice have been of incalculable use and enabled them to tide over several difficulties. I am not qualified to speak of Mr. Selby's administration of the Educational Department as Director because I am not sufficiently acquainted with it, but this I may be allowed to say that I consider it a creditable feature of that administration that he has been able to tackle a problem which had lain sorely neglected for many a year—the low pay and miserable prospects of the teachers of our vernacular schools.

Mr. Selby has been Vice-Chancellor of this University since February 1906 and in that capacity he has by his successful administration of our University won golden opinions all round. He assumed charge of the office at a time when the new law changing the constitution of the University had just come into force after much painful controversy; and when the University had to be administered according to the new regulations, some of which, I confess, were framed by the Senate, without being aware of it, so as to be traps for teachers. But under Mr. Selby's wise and cautious guidance everything has gone on smoothly. There has been no hitch or jar. I am but echoing the opinion of all members of the Senate and of the Syndicate when I say that Mr. Selby has been a model Vice-Chancellor, one of the best Vice-Chancellors we have had. A few months more, and I am told Mr. Selby

will retire to his native land to enjoy the rest which he has so richly earned after years of strenuous toil in this country. When he retires he will be greatly missed by all those who have been brought in contact with, and who have benefited from, his striking personality. He will be gratefully remembered amongst us, as gratefully as we cherish the memories of the late Dr. Wilson, the late Sir Alexander Grant, and, last but not least of all, Dr. William Wordsworth. A new generation has sprung up since these three disappeared from amongst us, and yet tradition lingers fondly and with reverence over the memory of their good works and their noble examples. Mr. Selby's name will be as fondly cherished for many years to come.

One word more and I shall have done. Today's ceremony has to me a deep meaning as I believe it has to many others. We are living in times of what is called unrest and the question is asked in some quarters, what has England done, and what will England do for India? That question was, I think, nobly answered when during and in spite of the dark days and brutalities of the Mutiny of 1857, England in a magnanimous spirit opened to us the portals of higher knowledge by founding the Indian Universities and sending some of the best of her sons to impart to us higher education. That single act was worthy of England, worthy of the Queen of Queens and woman of women who represented then the might and majesty of England. By that single act England showed that while she would on the one hand deal with a strong hand with the enemies of law and order, she would on the other be true to her divine mission in this country. I believe, Sir, that the heart of England is as sound to-day as it was then. One of your great men, the late Lord Shaftesbury, was wont in his speeches to speak of the moral triumphs of the British Empire. England will be judged by those triumphs. India will be judged by the peaceful and loving manner in which she seeks to benefit from those triumphs. Those triumphs will be secured for this country so long as England gives us such men as Mr. Selby, so long again as this country produces men of character such as

his; for, in Mr. Selby, it is no exaggeration to say, we discern a genuine Englishman, genuine because of the beauty of his character and the quiet dignity and emphasis of his life.

The speaker then presented Mr. Selby formally and His Excellency handed him the patent of his degree and admitted him as a Doctor of Laws of the University of Bombay. Sir George Clarke then said:—

Gentlemen of the Senate of the University of Bombay:—When I last had the honour of addressing you, I ventured to express the hope that you would recognize the value of the services of the Vice-Chancellor by conferring upon him the highest honour at your disposal. It is, therefore, with particular satisfaction that I have come to preside over this meeting of Convocation convened to admit Mr. Selby to the degree of a Doctor of Laws. In thus honouring our distinguished Vice-Chancellor, the University does honour to itself.

There are special reasons why meritorious work in the cause of education should receive public recognition. The profession of the teacher is one that demands self-sacrifice in a high degree. We live in an age of which impatience is perhaps the most marked characteristic. We are all over-anxious to see the immediate results of our work, and statesmanship is gravely impaired by the short-sightedness which does not look beyond to-morrow and which craves for instant personal success. The great movements which have conferred lasting benefits upon mankind have been slow in operation, and we should all strive to realize that the best work we can do is that which will bear fruit under our successors.

This applies with special force to the teacher, who can rarely occupy a prominent place in public estimation, but whose work in moulding the character of future generations may be of vital importance in India most especially.

The Honourable Mr. Justice Chandavarkar has given us an eloquent description of Mr. Selby's long and strenuous labour in promoting education in this Presidency. I feel that I can add little to what has been said by one whose knowledge is far greater than mine. As a teacher of

moral philosophy Mr. Selby stands pre-eminent among Englishmen who have come out to India from the old Universities; but the great work of his life extended far beyond the chair of the Professor. Except for a few short periods, nearly thirty years of his career were spent at the Deccan College, which he may almost be said to have created, so great was the development of this Institution during those strenuous years. The work that he accomplished cannot be presented in the form of figures. The effects of the personal influence which he brought to bear upon large numbers of Indian students exist and will continue to exist; but they defy calculation. No one has more thoroughly understood that the best part of education is that which goes to the building up of character, and Mr. Selby, during his long association with the Deccan College, maintained personal relations with his students which were of the highest value to them. He was thus able to instil into them his own manly spirit, straightforwardness and love of truth. He enforced the discipline which is an essential part of the training of youth; but this broad sympathy won and retained for him a personal affection which lies at the root of the influence of all great teachers. While, in England, the tendency has been to exaggerate the importance of games, the Indian boy does not always obtain the necessary amount of relaxation. In the Deccan College, Mr. Selby worked with most marked success in introducing and promoting healthy recreation, and himself originated the Deccan College Gymkhana which has brightened the lives and improved the physique of several generations of students.

In the Educational Service of this Presidency Mr. Selby has set a high standard of simple-hearted devotion to duty which I trust that every member of the Department will strive to attain. There is no country in which the influence of the teacher can be of greater permanent value than in India; but it cannot be too strongly asserted that this influence will never be won in the classroom alone and that the teacher who considers that his functions begin and end with the period of the lesson is unworthy of his great profession.

That is the moral which I wish to draw from the career of the Vice-Chancellor who will leave behind him a fine example of the true spirit of the teacher, the spirit of which India stands in increasing need.

Dr. Selby, I can assure you that I am proud to be the medium of conferring upon you a distinction which you have richly deserved, and which I am sure you will always value. When you come to look back upon your long and strenuous career in India, I think that perhaps you will recall with special pleasure the years which you spent in the Deccan College which owes its present position to your fostering care. You will carry with you the sense of duty faithfully performed which is the best recompense we can receive, and you will know that the influence you exerted will remain as a living force in the Presidency to which you have devoted the best years of your life. I trust that you may long be spared to bear the honour bestowed upon you to-day, and to enjoy the freedom from the cares of office which you have so well earned. That you will still continue to take an interest in the welfare of the University of Bombay I am certain, and I can assure you that you will be affectionately remembered by the Senate in which you have played so important a part and by all your old pupils who owe so much to your wise teaching and above all to your broad and active sympathy.

His Excellency then declared the Convocation closed.

RELIGIOUS EDUCATION IN MYSORE.

A GOVERNMENT NOTIFICATION.

The following Order of the Government of H. H. the Maharajah of Mysore, directing the introduction of religious and moral instruction in all Government Schools and Colleges in the State, with effect from the 1st November 1908, is published for general information :-

The Government of H. H. the Maharajah have had under consideration for some time past the question of imparting religious and moral instruction to pupils in Schools and Colleges in the State. The tendency of the present system of education,

which especially in Government institutions is purely secular in character, is to devote exclusive attention to the training of the intellect, and to leave the character of the pupils to be formed and moulded, in an indirect manner, by the personal example of the teachers, the literary teaching included in the school curriculum, and the nature of the discipline maintained in the institution. The result, as judged from experience and observation, cannot be considered to be altogether satisfactory. That this indirect influence of schools has failed in many cases to form the character of the pupils and make them useful citizens has, as is well pointed out by the Inspector-General of Education, "become only too apparent of late in India. For various reasons the homes of the pupils have ceased to impart religious and moral instruction, and the influence of religious teachers and places of public worship has almost disappeared. Irreverence of all kinds and disrespect for authority have been on the increase. Modesty, self-restraint and good sense are largely at a discount, while presumption, vanity and unrestrained aggressiveness appear to be increasing." Under these circumstances His Highness' Government are convinced that one of the readiest and most effective means of forming and strengthening the character of youth is to be found in imparting religious and moral instruction to them as a systematic part of the school curriculum.

There were misgivings at one time as to how, with such a diversity of sects even among the Hindus themselves, a satisfactory system of religious instruction could be devised. But the Report of the Headmaster of the Tumkur High School, who was deputed to study the system obtaining in various schools in the Madras Presidency, shows that in practical working the imparting of religious and moral instruction has not been attended with any difficulty. In the schools under Hindu management, referred to in that Report, not only do the different sects among the Hindus attend the classes, but even Mahomedan and Christian boys have no objection to do so; on the contrary, they often join the classes of their own accord.

The Government recognise that any scheme for the imparting of religious and moral instruction must at this stage be in the nature of an experiment, and that the results may possibly not be all that could be desired. But they feel at the same time that, in the interests of the rising generation, the State can no longer afford to postpone action in the matter. It appears to them that the proposals submitted by the Inspector-General are framed on correct lines and would if adopted constitute a move in the right direction. They are accordingly pleased to sanction these proposals, and to direct that effect be given to them from the 1st November 1908.

As recommended by the Inspector-General the time to be given to religious and moral instruction will be limited to five periods a week, the first thirty minutes after roll-call being devoted thereto. There will be a moral discourse on Mondays, Wednesdays and Fridays, and religious instruction on Tuesdays and Thursdays. The moral discourse will be common to pupils of all persuasions, and be based on a text taken from some religious, moral, historical, or literary book. In addition, there will be specific religious teaching from books like the Sanatana Dharma, Advanced Text Book, the Koran and approved commentaries and essays on the Mahomedan religion, and the Bible. The curriculum suggested by the Inspector-General and the text-books recommended by him are approved for adoption in all Government institutions, to which alone the present scheme will be applied in the first instance, the question of extending the scheme to Aided Schools not under Government management being reserved for future consideration.

As Mysore is a Hindu State and the bulk of the population is Hindu, provision for imparting teaching in the Hindu religion will be made in all Government institutions (other than those intended purely for the education of particular classes of non-Hindus, as, for instance, Hindustani Schools). The classes will be open for Hindus of all denominations, but attendance will be optional in the case of other pupils. It will at the same time be laid down for the present that, when in any Government institution the number

of Mahomedan or Christian pupils is not less than twenty, arrangements should be made as far as may be possible for imparting instruction to them in their respective religions. If, however, any private persons or bodies interested in either of these religions wish to make special arrangements at their own cost for teaching their respective religions in Government institutions where the number of pupils of such religions is below twenty, every facility should be given for this being done.

In the case of Government Schools intended purely for the education of particular classes of non-Hindus, provision will similarly be made by the Education Department for imparting instruction to the pupils in the tenets of their religion.

The Government consider that no additional establishment should be necessary to give effect to the new scheme, as the existing staff of teachers may be utilised for the purpose as far as possible; and as regards the cost of the textbooks required, this will be met from the ordinary Education Department Grant.

The Inspector-General is requested to issue such subsidiary instructions as may be necessary to give full effect to the orders of Government.

DISCIPLINE IN SCHOOLS.

BOMBAY GOVERNMENT'S ORDERS.

Under the heading "Political Movements—Discipline in Colleges and Schools" the following Resolution was issued on the 8th instant by the Government of Bombay Educational Department, dealing with the question of measures for the protection of pupils from evils resulting from their incursions into political affairs:—

His Excellency the Governor in Council observes with extreme regret that the advance of education in this Presidency, towards which Government contribute largely from the resources of the Province, has been accompanied by relaxation of discipline and a lowering of the standard of manners in Schools and Colleges. This has lately culminated in flagrant offences against school rules, while complaints of the

rudeness and discourtesy of boys in public are becoming too frequent.

His Excellency in Council feels certain that no parents can wish that there should be a breaking up of family life, that authority should be disregarded, and that the way to anarchy should thus be prepared. These are the necessary results of any weakening of that discipline which the wisdom of the East has always recognised to be the indispensable preliminary to a right use of the independence of manhood. It is in well-governed families, Schools and Colleges, and there only, that youths can be trained to the duties and responsibilities of citizenship. There only can they learn the habits of obedience, mutual respect, tolerance, self-control, self-sacrifice and devotion to a common good which are vital to the existence of organised society. Where these lessons have not been learnt, there can exist only a mob of individuals knowing no law but inclination, no good but personal gratification and self-aggrandisement, and unable to rise to a conception of national progress. This is one of the most certain lessons of history, and its truth has never been questioned in India, where it has been powerfully reinforced by religious sanction.

The traditional feeling of boys towards their "guru" in this country has always been one of respectful awe, and the attitude of children towards their parents and elders has always been one of implicit obedience carried on even into mature age. It must be the fault both of parent and of "guru" if the reverence accorded to them even a quarter of a century ago is now being lost.

POLITICAL INFLUENCES.

His Excellency the Governor in Council is convinced that the growing laxity of discipline and disregard of authority are in some measure due to the tendency on the part of boys and students to associate themselves with political demonstrations. Whatever may be the merits of any political propaganda, there can be no question that the participation in it of youths in the state of pupillage is bravely injurious to the progress of education. Not only are immature minds impressed with ideas before powers of judgment have been acquired, but the mental excitement

thus induced is necessarily prejudicial to an orderly process of learning. In the words of Dr. Edward Caird addressed to the students of Balliol College, Oxford: "To undertake such work would be to anticipate like in such a way as to hinder your preparation for it." These words express a universal truth, and the Governor in Council has come to the conclusion that the interest of educational progress, are now plainly suffering, the incursions of boys and students into political affairs must be checked.

When boys live in hostels, the responsibility of the parent is for the time suspended, and that of the master is complete. In day-schools, the master is responsible during school hours, and at other times the parent. There must, therefore, be co-operation between master and parent. Nowhere in the past has there prevailed a more attractive type of manners and a higher standard of courtesy than in Indian households. Both masters and parents are well aware of this. They know the sentiments with which they were inspired, and the outward forms of respect that were exacted from them, when they were boys. The Governor in Council expects that they will do their utmost to inculcate the same high tone of feeling standard of behaviour in their own children and pupils. This is manifestly demanded alike in the interests of the parents, of the boys and of the country as a whole.

STRICT ORDERS.

The Governor in Council is, therefore, determined that breaches of discipline in schools, and lawlessness and discourtesy in or out of school shall not be tolerated in schools maintained or aided by Government, and any measures which Managers or masters may take to enforce authority and to check the growing laxity of manners will receive the fullest support.

Masters are too prone to believe that their success is to be measured by the number of boys in their schools.

This is an entire mistake. Rude, undisciplined and disobedient boys should be ruthlessly weeded out. Boys taking part in seditions or disorderly

proceedings should be expelled. In their own schools and in those which they aid, Government attach much more importance to quality than to numbers.

Inspecting officers will be directed to pay surprise visits to schools, and to warn masters if necessary, that they are not acting up to the standards required by Government. It is expected that the managers of Aided schools will recognize that they ought to maintain the same standard of discipline that Government will exact in their own schools and that the acceptance of aid from Government implies a general willingness to fulfil as far as possible the requirements of Government. There is no obligation to contribute to the support of institutions which are not rendering effective service to the people.

The Governor in Council believes that good would result from more frequent consultation between Managers of schools and Government officers both of the Educational and the Revenue Departments. Parents also should be called into council as much as possible, and the objects of Government should be explained to them. The Government will endeavour to provide in their own institutions, as high a standard of education of financial conditions permit, and will continue their aid to other schools and colleges. It must, however, be clearly understood that hostility to Government is incompatible with retention of students in the former and with grants to the latter.

CONDITIONS LAID DOWN.

In all Government and Aided Secondary Schools, His Excellency requires a strict observance of the following conditions:—

(1) Strict regularity and implicit obedience must be exacted in class.

(2) Any reported or observed objectionable conduct out of school must be sternly punished.

(3) Parents must be given to understand that they cannot dictate to Managers, but that the Managers have a right to say on what conditions they will admit or retain boys in their schools. A great deal of the prevailing laxity in schools

comes from the fatal oriental habit of yielding to importunity.

(4) The present habit of appearing both in class and in public in dirty and untidy dress must be suppressed. Decent native clothes are very cheap and are easily kept clean.

(5) Politeness and courtesy must be inculcated and any approach to rudeness or ungentlemanly speech or conduct should be punished.

(6) Such papers only as Government from time to time sanction shall be admitted to reading rooms of schools and hostels or subscribed to by students.

(7) No school-boy shall attend or take part in the organization, or conduct of any public meeting of any kind.

The above rules will apply to all Schools and Colleges, Government or Aided, except that college students may attend public meetings with the previous permission of the Principal, to whose discretion it shall also be left what papers are admitted into the College.

It is expected that the Managers of Aided Primary Schools in large centres will give effect to these rules so far as they are applicable in their case. Separate instructions will be issued to mofussil school-masters.

INSTRUCTIONS TO TEACHERS.

By another Resolution all Collectors are asked to forward copies of the circular to the Municipalities within their respective charges with a request that teachers in Municipal Schools may be instructed accordingly.

The Director of Public Instruction is directed to impress upon Principals of Training Colleges the necessity of enforcing attention to the importance of discipline.

The following note to Masters of Primary Schools in the Mofussil is attended:—

The Sarkar has heard that some of you disobey the rule which forbids you to go to political meetings or speak in public on politics. You must obey the rule.

2. You are not to take newspapers into school or to allow any one else to take them in.

3. Some of your boys are often rude to people in the streets. It is your business to teach them to be well-behaved and to punish them if they do not obey you.

4. You are to try to persuade parents to make their boys obedient and polite, and to make them regular in attendance at school.

5. When political meetings are held you are not to allow your boys to go to them, and you are to try to persuade parents to help you in keeping them away from them.

6. You are to make your boys be as clean and tidy as possible.

THE MORAL EDUCATION CONGRESS.

The Congress was opened on September 25th at 10-30 A.M. in the large hall of the University of London. The President, Professor M. E. Sadler, took the chair. The platform was filled with official delegates and other distinguished members, and there was a large general attendance in the body of the hall. The University is not only the most appropriate place possible for the Congress, but it also seems very convenient. The organization is admirable, and everything has been done to ensure the success of the meeting.

The Chairman, who was loudly cheered on rising, began by welcoming the delegates and visitors, addressing them in French, German, and English in turn, and then proceeded to read the presidential address. He said:—

WELCOME TO THE DELEGATES.

May I, ladies and gentlemen, on behalf of the Committee of Great Britain and Ireland, offer a hearty welcome to the delegates and visitors from the different parts of the British Empire, from the United States of America, from the various European countries which I have not already named—Belgium, Denmark, Norway, Sweden, Spain, Hungary, Russia, Roumania, Bulgaria, Turkey, and Greece—to the delegates from Mexico, and to the Chinese and Japanese delegates, who represent the far East? The recital of these names impressive by their

variety, rich in associations, and significant for the future of civilization, shows the world-wide interest in the problems which the Congress has assembled to discuss. Time forbids an adequate reference to the contributions which the experience and culture of each nation thus brings to the common stock of our knowledge and to the materials upon which we have to found our judgment. But those whose work lies in education in this country would not wish this occasion to pass without mention being made of our especial indebtedness to the educational thought and experiment of the United States, and to the lessons taught by the People's High Schools in Scandinavia, still strong through the spirit of brotherliness and of hearty humanism which they derived from their founders Grundtvig and Kristen Kold. Two other great obligations are in the thoughts of many present here to-day. One is our debt to the genius of Tolstoy, challenging us by its great sincerity of motives and frankness of utterance honestly to test the foundation of those principles in respect of which our judgment may remain at variance with his, the other is our obligation to those who have helped us to realize the moral dignity and power of the great tradition of Japanese training, with its stern inculcation of patriotic duty and austere repression of self-will.

THE PRESIDENTIAL ADDRESS.

It may be convenient if I attempt to sketch in outline the plan which has been prepared by the committee for our discussions during the Congress. We begin by considering the ethical aims of a school, elementary or secondary; day school or boarding school; for boys alone for girls alone; or for boys and girls together. We propose to examine the means which each kind of school can command in its task of helping in the formation of character, and to review the limitations under which the work of each is, necessarily or unnecessarily, at present done. It will be observed, therefore, that the programme takes the school-community, not the individual pupil as the unit for our first consideration. This is significant of the educational thought of our time. In

an age which throbs with individualism and which is possessed by an intense desire for self-realization and for full personal development, our wisest educators see that there is a moral influence of great value in the responsibilities and collective duties imposed upon its individual members by school-community which is morally healthy, wisely organized, largely self-governing, and not too closely watched. It is fitting that at an educational congress held in England emphasis should thus be placed upon the school-community. For it was in England that nearly 80 years ago, at a time when the spirits of individualism threatened to become too self-assertive through the stir of industrial and commercial life which resulted from the development of the factory system and our rapidly extending trade, Thomas Arnold of Rugby and his contemporaries (for in this great work Arnold stood most conspicuous, but not alone) developed the restraining and moralizing power of self-government in a school-community, set among surroundings which appeal to the imagination, which cultivate the sense of beauty, which inspire loyalty to what was noble self-sacrificing in the past. The idea of the school-community is a mediæval idea touched by the modern spirit. England, the pioneer of new development of the factory system, is of all countries one of the most conservative in the continuity of her educational tradition. Thomas Arnold's name we honour to-day as the man who first impressed upon modern educational thought the value of the school-community as a factor in moral training and in the formation of character. But Arnold was a Wykehamist and an Oxonian. At Winchester and at Oxford, he had learnt the moral power of collegiate life. And the magical influence of Winchester and of Oxford, and of other great institutions of similar lineage and like antiquity, is in part due to the fact that there, as in some other English institutions, there still is preserved much that was best in the tradition of the Middle Ages.

THE PERSONALITY OF THE TEACHER.

Regarding, therefore, the corporate life of the school as being of especial importance, we pass

Foreign Notes.

GREAT BRITAIN.

We have looked too exclusively (says the *Times*) to education as a means of enabling lads to do the best for themselves in the world. It will fail signally to give what is most required if it does not fit them also to do the best for others—if it does not enlarge their sympathies and interests and make them effective citizens.

At the annual dinner of the Bristol University College Colston Society, Mr. O. A. Wills, President, announced that his father, Mr. H. O. Wills, had promised 100,000*l.* towards the endowment of the University for Bristol and the West of England, provided that a charter be granted within two years. It was stated that of the 250,000*l.* required before the charter can be applied for, 197,000*l.* had been given or promised.

Dr. Cohen, a University Professor of Chemistry, spoke out strongly in the *School World* recently against the teaching of Chemistry as a school subject, and in the correspondence evoked by his article a Science Master complains that "each Professor wishes us, in our schools, to teach all but his own subject: the Professor of Chemistry tells us to teach Mathematics and Physics well, and he can teach the Chemistry; the Professor of Physics would have us send him pupils who have a thorough knowledge of Chemistry, Mathematics, French, and German, and he would like Physics to be a sealed book," and so on.

The *Westminster Review* publishes a very interesting article on "Chinese students in Japan" from the pen of a Chinese contributor, Mr. V. K. Ting. There are 1300 Chinese students in Tokyo, 500 in the United States, and 500 in Europe.

PROPAGANDA IN MAGAZINE AND BY PLAYS.

Mr. Ting gives an interesting account of the way in which the Chinese student influences opinion in China:—

Whilst learning, they make themselves heard in two ways: by means of the Press, and by delivering lectures during the summer when they return home for the vacation. The way they carry on the former is very interesting and ingenious. At one time, when their number did not exceed a thousand, no less than six monthly reviews of about 200 pages each were published. In fact, nowhere is it easier to start a magazine than among the Chinese students in Japan. Two or three promoters, a special meeting, a few speeches, and a general subscription, are all that is necessary. Contributors are volunteered, editors are elected, and both are gratis. With a very small sum of money and little time, they would print two or three thousand copies and send them to China for sale. By the time the

next number is ready for the Press, the money derived from the sale of the previous number has already come to hand, and thus they carry on their business, which, however, gives them no profit and requires a great deal of energy. These magazines are usually well written, and have a good number of subscribers.

The students in Japan have written several new and original pieces for their own acting—a fact that would shock even the most enlightened class seven years ago.

THEIR RELATIONS TO THE JAPANESE.

Mr. Ting complains that—

The Japanese, though very polite and hospitable to their European visitors, are strangely insolent and reserved towards the Chinese. No Japanese family of any distinction now ever troubles about or takes interest in the Chinese students, whom at first they welcomed in the enthusiasm: as soon as the novelty lost its charm, reaction set in and their doors are shut before their faces.

WHY, THEN, DO SO MANY STUDENTS GO TO TOKYO?

I could recount here some of the facts regarding the reason why. The simplicity of the Japanese language as compared with the European in itself would provide sufficient explanation. An intelligent Chinese has no difficulty in reading Japanese after three months' study. The brilliancy of wealth and power that is displayed in the West dazzles the Chinese students, and makes them lose their heads, but in Japan they do not run this risk, and have time to collect their thoughts. They learn at second hand, it is true, but not at second rate. Again, living in Tokyo is four times cheaper than in any European or American country, and, but for this cheapness, thousands of students would never have been able to leave their native land.—*Review of Reviews.*

"AGRICULTURE THE BASIS OF EDUCATION" is the title of a very suggestive paper in the *Monist* by Mr. O. F. Cook, who boldly challenges current opinions of training the next generation: Mr. Cook begins by saying that "interest is intellectual appetite." It is the index of the mind's readiness for the assimilation of knowledge. Formal instruction does not arouse interest, but can speedily deaden and destroy it. It results in a scholastic dyspepsia. "It is as though horse-breeders were to follow the methods of the hog-raiser or as though the system of producing fashioned geese were applied to game-cocks or to carrier-pigeons." Education means greater power of active, not mere plethora of erudition.

GERMANY.

It might justly be maintained that to qualify for Government positions, or for other reasons, the University graduates of Germany have attacked in fifty years, and with only the appearance of scholar-

ship, the work that might have employed genuine investigators for a century to come. The result is that as creative scholars arise they will find the field encumbered with previous studies too badly botched to be helpful, yet, unhappily, not quite empty enough to be negligible.

FRANCE.

A CURIOUS report comes from Paris, where it is said that a wonderful calculating girl, Mlle. Diamandi, has just been presented to the Society of Anthropology in Paris. In the presence of many eminent mathematicians she performed several remarkable feats, such as working out almost instantly, and by mental process only, the square of twenty-five figures, subtractions of sums of twelve figures, the square root of from eight to twelve figures, and the cube root of from six to ten figures. Mlle. Diamandi, who is only twenty years of age and of Greek origin, says that every figure presents itself to her mind's eye in a different colour. Thus No. 1 is always black, No. 2 yellow, No. 3 pink, and so on. This colour vision is constant, and is entirely independent of her own volition.

RUSSIA.

MR. VICTOR E. WARDEN gives a deplorable account in the practical teacher of the state of chaos that exists in Russian schools of to-day. For at least two years past, he says, no work has been done in the schools of Russia, except, perhaps, the rural common schools. From the Universities and other schools of equivalent rank, down to the secondary schools of all characters, teaching has been impossible and learning entirely lost sight of. Instead of pursuing the regular course of University studies, ninety-nine out of every hundred students have been engaged in filling their brains in the theories of Government. All the political "demonstrations," "manifestations," &c., of the past few years—except those of the Black-Gang—have been engineered by students. They have wrested from the Government a nominal autonomy for the Universities. But instead of utilising the new privilege to the full, they have been absorbed in political agitation, and there will be a deficiency of men qualified to fill University drains for years to come.

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The Congress will, therefore, proceed to discuss the relations between home and school. It will also review the special difficulties of schools in poor districts; the need for educational care through the critical years of adolescence; the work of boys' and girls' clubs; the influence of old scholars' associations; the educative power of holiday camps for boys and girls alike; the work of continuation classes in training for citizenship, for self-respect, and skill in practical occupations and for the making of good homes; and (not least important) the remarkable influence of the adult schools, of the Workers' Educational Association, and of the Peoples' High Schools in Denmark in shaping character, and in inspiring young men and women with a worthy ideal of life. This will bring the Congress, in its review of the relations between schools and the life of the outside community, to the consideration of biological questions of great moment—to the influence of heredity and of environment, and to the educational needs which arise in dealing with the physiological and psychological conditions induced by adolescence.

THREE POINTS FOR CONSIDERATION.

May I in conclusion emphasize three points as deserving special consideration? First, how far is it possible under present conditions for our public elementary schools, which train the vast majority of the citizens of the future, to furnish for their pupils the precious character-forming influence of a corporate school life? Is it not desirable that the classes, committed to the charge of the teachers, should be made smaller? But (to use Bishop Berkeley's word) one query more—Can a teacher individualize more than 30 or 33 pupils in one class? Secondly, should not more be done in the course of preparation at our day training colleges, especially to give teachers the opportunity of more systematic preparation for the duty of moral education? Is it not important that the teacher should be equipped more fully than is often now the case, with the knowledge needed for the task of guiding conduct and of endeavouring to impart faith in a moral ideal? And if the answer to these queries is in the affirmative, ought not the period of the

teacher's professional training to be extended, in order that the course of preparation may thus be deepened without risk of over pressure and of intellectual congestion? Thirdly, is it not necessary that under the conditions of modern life more should be done to give educational help and guidance to young people during the years of adolescence? So far as statistics enable us to judge the true state of the case, not more than one out of every three children who leave the elementary schools of England and Wales at 13 and 14 years of age receives during the years which follow any kind of systematic educational care. Far too great a number pass out of the range of all good educational influence. Far too few receive the regular training which might help in quickening an ideal of personal and civic duty. This surely is a problem which calls for the earnest consideration of all educators, and of the statesmen to whom is committed the guidance of Governmental effort in national education.

The address delivered yesterday by Professor M. E. Sadler, as President of the First International Congress on Moral Education, was admirably calculated to arouse extended interest in the deliberations to which it was introductory, and to enlist parents as the allies of the schoolmaster in his endeavour to engage profitably in a sphere of work which, even if not regarded as lying beyond his province, has not regarded as lying beyond province, has not hitherto been sufficiently recognized as entitled to an important place among his acknowledged duties. Every one who is at all familiar with the great public schools of England, or with the histories of the countless numbers of distinguished men who have acknowledged deep indebtedness to them, are well aware that the moral education given in these schools has been even more prominent than the intellectual in promoting the good results which they have yielded; but most people will be prepared to admit, notwithstanding the influence exerted upon pupils by great men of whom Arnold may be taken as a type, that the moral education of the schools in question has been that of the school community itself rather than that of the teachers. The masters have, as a rule, been

justified in their expectations, that certain standards of honour and of uprightness would be maintained by the boys; and this expectation has been largely based upon the known existence of such standards among them, and upon their known determination that these standards should be maintained. The standards often were, no doubt, such that their correctness on certain points might be disputed, but they were the outcome of the school public opinion; and, whatever may have been their faults in any particular place or instance, they had always, and in all places, the merit of teaching individuals to submit themselves to the corporate conscience, and not to fancy themselves better or more enlightened than their fellows. In many instances, perhaps, the standard has in after life required modification in response to circumstances; but the essential lessons of consideration for the neighbour, of unselfishness, of truthfulness, and, to put the whole matter in a single word of regard to a sense of duty, have been taught in a manner so effectual that they are seldom or never entirely forgotten. It would be very difficult to find a man who had passed with credit through a great English public school, and who, in adult life, would be capable of uttering a deliberate lie with intent to injure. His whole nature would revolt, apparently instinctively, against the very thought of such a proceeding.

If this be so, it may, perhaps, be conceded that the essence of the problem before the Congress is to ascertain the best means of extending to schools of a different class the sort of moral atmosphere with which those of the highest class have, partly by design, and partly perhaps by combinations of circumstances which may almost be described as accidental, been able to surround themselves. The great schools have had the immense advantage of deriving the majority of their pupils from moral homes; for, even in periods when the general habits of society were of a kind which would now call down animadversion, those practising these habits

were never devoid of standards of their own, to which they unhesitatingly deferred and by which they were compelled to recognize the necessity of submission to rules, even if these were not always the best or the wisest which could have been framed. The schools of which it must be said, although without any disparagement either of their essential excellence or of the good work which it may be given them to accomplish, that they are of an inferior class have not enjoyed the advantage in question to anything like the same extent and children attending them must always have been at least partly drawn from classes of the community among whom the standards of character or conduct were in some respects less high, and more likely to be weakened by considerations of personal interest. The large numbers of people whose prosperity is much dependent upon the favour of others are in an important sense weaker than those others; and deceit and prevarication are the weapons of the weak. A child whose parents are in the habit of making excuses to employers, excuses which the child will know not always to be in accordance with fact, will not take with him to school either a very strict moral standard, or a very great readiness to conform to one when it is presented to him; and it must, therefore, be admitted that the problem of moral education differs greatly, according as it is presented to the teachers of children in whom such education has made a considerable progress at home, or of those who have been subject of the influence of bad example. There is, we think, much reason to fear that, with children of the latter class, the schools open to them have accomplished but little. Mr. Gautrey, the General Secretary of the London Teachers' Association, told the Congress yesterday that "the moral, mental, and physical education of the children in elementary schools had vastly improved," and we hope his opinion may be well-founded. We greatly doubt however whether it would be confirmed by impartial observers who were able to remember accurately the schools of the National Society fifty years

ago. The Education Act has unquestionably gathered a greatly increased number of children into its net; but we think there would be no universal admission that the children in actual attendance have improved in the directions which Mr. Gautrey indicates.

We are, on the other hand, inclined to fear that there has been, during the last fifty years, a sensible decline, in many classes, in the strength and activity of the sense of duty among the community, whether it be duty to the Empire, to the parish, to the family, or to the employer. The result of such a decline, if it does exist, must inevitably be a weakening and disintegration of the forces of the nation; and it should, therefore, be regarded as an against which both statesmen and politicians are called upon to strive. Professor Tonnies is reported to have told the Congress that, within wide limits, the social question and the moral question are the same; and with this opinion we must confess ourselves to be in complete agreement. The social question turns upon the recognition of a duty to our neighbour, and the moral question turns upon a similar recognition of a duty to our Creator. The practical inquiry should be as to the manner in which these duties can best be so inculcated as to become integral parts of the moral and intellectual organization, steadily operative upon conduct from childhood to old age. The solution of this problem will leave yet another, of almost equal importance, and to importance to all classes, in the question how best to teach the necessity or the value of intellectual honesty; of a definite recognition that it is morally wrong to believe things which are not true, or, in other words, to hold and act upon demonstrably erroneous opinions. It is as much the case now as it was in Bishop Butler's time that men who are infinitely curious to know what is said have no corresponding curiosity to know what is true; and hundreds of people possessing a certain amount of literary cultivation have never realized that false opinions, say, about matters of science may indirectly be quite as hurtful to the community

as false opinions about matters of morals. A false opinion, for example, about the channels of diffusion of cholera, and a carelessness as to whether the opinion held was true or not, when prevailing among members of a governing class have permitted the pestilence in question to devastate many countries. The great difference between English and German education, and one which in time if it were maintained, could hardly fail to tell upon the relative positions of the two countries, is that education in Germany is so directed that, when it fails to confer exact knowledge, it at least confers a power to recognise the value of knowledge in others and a willingness to submit to its guidance.—*The Times*.

NELLORE NEWS.

(From a correspondent).

With a view to extend the usefulness of the proposed Educational Exhibition at Nellore it has been decided to throw open the competition to the schools in the Ceded Districts also and the headmasters of the Secondary and Training schools in those districts have been requested to join the Committee and give their hearty co-operation. It has been resolved to open the Exhibition on the 9th February 1909 and to keep it open till the 13th February. An interesting programme is being arranged and we expect to hear some practical papers on Elementary and Secondary education and a few model lessons on important subjects. Besides exhibitions of drill there may be a few magic lantern lectures. We hear that Miss P. F. Parsons, B.A., L.T. and Miss C. Kofel have already consented to read some papers on elementary school subjects. The chief feature of the Exhibition will be the presence of exhibits from America and Holland and this alone should be enough to tempt educationists to make a short trip to Nellore. If the conferences of inspecting officers which are at present held at Guntur and Bellary are with the kind permission of the Director of Public Instruction held at Nellore in February 1909 we

feel that the presence of a large number of educational officers at the Exhibition will make the show very attractive and the opening ceremony very interesting. The Committee is desirous of giving away as many prizes as possible to the best exhibitors and it is therefore requested that the ladies and gentlemen in the II Circle who are interested in education will help the Committee financially also.

OUR ENGLISH LETTER.

BRISTOL, September, 1908.

We are now in the middle of the silly season. The members of Parliament are grumblingly taking a shortened vacation, and the school-boy is enjoying his with something more of grace and zest. Even the hard-worked varsity tutor has packed up his hard-worked lectures and is away in quest of health. The voice of the suffragette is not heard in the land: the suffragette is a great believer in duets rather than solos; what is the good of speaking when there is no one to interrupt? We have only the *Daily Telegraph* with more of its cunningly-devised correspondence. Few papers show such astuteness in arousing interest in questions that would otherwise be little canvassed. In Educational affairs there is little to chronicle, save annual conferences where the same old subjects are debated in the same old way. And as to the weather—whatever be the solar-myth with respect to the heat of India whereon Mr. Kipling has written in his pungent verse, there is no doubt about the rain we have had this last week or about the cold which has to-day combined with it to make the streets of a French town somewhat cheerless of aspect. A touch of sunshine makes the whole world kind.

Bristol is now moving towards a Charter. The modern charter is a University charter. They have had for sometime a University College which has done good work, but they are yearning for greater things. Leeds and Manchester and that hated upstart seaport on the Mersey are towns of mushroom growth compared with

the ancient city which is the self-confessed capital of the West. Bristol has always been well served by her citizens. Have there not been many emulators of Colston of blessed memory, their greatest benefactor? and now a member of the Wills clan has stepped forward with an offer to provide almost half of the big sum required to endow a University. A great family, the Wills, great in more senses than one. Rumour has it, that, when the King was entertaining Bristol's chief citizens on his yacht at Avonmouth a month or so ago, the Queen laughingly excused Lord Winterstoke from rising for 'God Save the King.' He was sitting in a low basket chair and found some difficulty in lifting himself out of it and was no doubt at once relieved and embarrassed when the Queen laid her hand on his arm and told him there was really no need to get up. Now a younger brother of his has come to the aid of education in the west of England. But we have here again an illustration of the way in which in England we are always handicapped by 'pre-existing conditions.' We are forced to compromise at every step. We never are allowed to write on a *tabula rasa*: we only make our glosses on the margin. The good is the enemy of the better. To change the figure we are forced to pour our new wine into old skins—to the detriment of each alike. In this case the Merchant Venturers have stepped in. Their claim to a voice in the matter cannot be disputed, for their past services to the cause of technical education in Bristol have been undoubtedly great. And now they want the place of honour in the new University so far as the mechanical sciences are concerned. They have drawn up a petition to Parliament, which will no doubt be carefully considered on its merits. We are not immediately concerned as to the merits of this individual case. But it serves as a good instance of the way in which the forces become disunited and the sympathies of the people estranged; for any seeming slight done to the Merchant Venturers would undoubtedly diminish popular enthusiasm on behalf of the new project. Di Meliora!

When Parliament re-assembles the Licensing Bill will have as its chief companion in adversity the Education Bill. We have now our third Education Minister of this Parliament. Mr. Birrell came loring mercy; Mr. McKenna was a champion of justice stern and unrelenting; Mr. Runciman has so far shown himself a keeper of his own counsels, ready to listen but slow to speak. There are others of this Cabinet of brains and youth who cannot be accused of reticence, notably Mr. Lloyd George and Mr. Churchill who are sworn friends and together must carry great weight at Cabinet counsels: the Government could not afford to lose them, and they both lean to Radicalism in a Government that is not disposed to err in that direction; look for instance at Sir Edward Grey and Mr. Haldane, to say nothing of the Premier himself. Mr. Runciman has not yet taken his stand or pledged himself to any project. He kept the question out of the by-election that he was forced to contest on his elevation to the Cabinet, and he is essentially shrewd, calm, and statesman-like. He is a loyal Wesleyan himself, and so midway between the arrogant Anglican and the truculent Non-conformist: we do not use the epithets as generic but as descriptive of two sections who are going far to render this problem insoluble. Negotiations, we have been told repeatedly are in the air. But things in the air are not always to be relied upon, as we have every reason to believe in this age of aeroplanes. Certainly nothing has come of these negotiations as yet. The Government Bill is still nominally holding the field, but we venture to predict that it will never become law. How does the matter stand then? It rests on the lap of Mr. Runciman: We must hope he will take a firm position and that something will be done to end the present intolerable situation. The Non-conformists are beginning to feel themselves aggrieved. The *British Weekly* will soon be putting the screw on: Passive Resistance is still dragging out a weary existence an unconscionable tune a-dying. We hope Mr. Runciman is really going to make a name for himself by settling the business for a decade or two at least, until the rival sects have ceased from warring

in this matter or their interracial strife has resulted in a purely secular education in the school at the great Franco-British Exhibition at London, there are two villages, one a West African and another from Ceylon. In both of these there is a school which is supposed to proceed during the day. The Ceylon school was the more lively of the two. Proceedings were exciting enough, the children were small, and lessons were apparently being repeated in a perfect Babel. At the Senegalese school the masters appeared more interested in their own studies than in their children's. But we had a conversation with one of them in such French as we could command and found him most intelligent and interesting. We can only hope the experience was mutual. He was a teacher of Arabic, and was the only man in the place who was not clamouring for money. The others seemed to care for nothing else, but this West African was obviously keen on his work and glad to have a word with any one about it. His colleague was the while busy on an Arabic text, not with a view to show but to study. The chief of the tribe was sitting listlessly watching the antics of one of his favourite wives. It was an interesting object-lesson on the worth of learning. The natives owe their allegiance to France: all their English was "Penny. Give penny. Then off." The schoolmaster was willing to talk, without hope of reward, even with your correspondent.

Reviews and Notices.

A SCHOOL ARITHMETIC, BY MESSRS. HALL AND STEVENS, WITH ANSWERS: MACMILLAN & CO., 1908. PRICE 4s. 6d.

The authors of this excellent work have been known to students as authors of *School Geometry*. They have now brought out a work on Arithmetic, prepared to suit modern requirements, 'and in accordance with the recommendations of the Mathematical Association.' Though the book is not intended for beginners, yet the elementary portions have been clearly dealt with, diagrams being largely introduced to illustrate principles. Chapters have been devoted to Decimal Approximations and Graphs, which are very

instructive. Easy algebraical methods have also been introduced in some places. This is commendable; for, the introduction of algebraical symbols, although fought against by orthodox arithmeticians, fairly simplifies work. Logarithms and Continued Fractions have been included; the latter are not of use to the High School Student, but logarithms have been rightly included, as they are highly useful for practical mathematics; and it will not be long before the Madras University include Logarithms in the portions for the Matriculation Examination.

A large number of questions has been taken from papers set for the Civil Service and various other examinations.

The book will be found highly useful by all Indian students.

ARITHMETIC FOR SCHOOLS, BY J. B. LOCK, M.A., NEW EDITION, REVISED AND ENLARGED WITH THE ASSISTANCE OF V. M. TURNBULT, M.A.: MACMILLAN & Co., 1907.

Lock's Arithmetic for Schools has run through four editions and has, from time to time, been reprinted with corrections. But the present 'new edition' bears the aspect of great change. We are of opinion that the grouping of the matter in this edition is scientific; portions dealing with the theory of Arithmetic are placed first; and such portions as treat of the applications of theory to practical business are placed next. Since the solution of all problems in Arithmetic depends upon the correct understanding of the main principle of Ratio, problems of practical life are treated in one chapter instead of 'under separate headings.' Certain chapters of the old edition, such as scales of Temperature, Chemical compounds, Exchange, &c., have been omitted here, as problems on the above are not based on new principles of Arithmetic, and as they are only of a technical character.

One good feature presented by this edition is the relegation of recurring decimals to the end; for it is recognised by all modern authors that recurring decimals are practically useless.

The book is recommended for use by teachers and students.

RECREATION, A NEW ASPECT OF EVOLUTION, BY THE REV. O. W. FORMBY, M.A. LONDON: WILLIAMS AND NORWATE.

The title of this book does not enable one to surmise its contents. Its aim is to show that

evolution is the work of co-operating laws whose marvellous adjustment bears every possible sign of purpose and to demonstrate the actual manner in which these laws have effected their various functions. The author thinks he recognises a divine purpose throughout the medley of interacting beings, and can follow out the steps and methods by which its details are accomplished. We are sorry we cannot agree with the author's conclusions. We can perceive no real relationship between the phenomena of natural history and the dogmas of revealed religions, except in so far as the sense of the latter is twisted to suit the former. We have had enough of such high sounding phrases as supernatural in nature and natural law in the spiritual world, and so forth.

A TEXT-BOOK OF GEOGRAPHY, BY G. CECIL FRY, M.Sc., F.I.C., LONDON: W. B. CLIVE, UNIVERSITY TUTORIAL PRESS, LD., 1908.

This book is essentially a compilation from various standard authorities on geography. The method of treatment is modern and the information is up-to-date. Mathematical and general physical geography is treated in the first five chapters. The systematic description of the British Isles contains more detail than other regions, which show that the book is largely intended for English boys. The book closes with various statistical tables. We heartily recommend the book to the teachers and pupils of our high schools.

SCHOOL HYGIENE, BY R. A. LYSTER, M.B., CH.B., LONDON: W. B. CLIVE, UNIVERSITY TUTORIAL PRESS, LD.

The subject-matter in this book is based on a course of lectures to large bodies of teachers in some parts of England. The chief aim of the book is to furnish the teacher with such facts regarding the growth, constitution and nurture of the child as will enable the teacher not only to take a new and much more interesting view of his work but also to play the part of an intelligent assistant to the school physician. The lessons do not merely lay down the rules for a healthy life but also explain the reasons for such rules. Though the book is intended chiefly for teachers in England, the Indian teacher will find the book a profitable source of study.

THE INDIAN KINDERGARTEN, BY MISS C. L. GILLINGHAM: LONGMANS, GREEN AND CO., BOMBAY, LONDON AND NEW YORK.

Though kindergarten has become a recognised subject in Indian schools, we are sorry to find it has not been utilised in a way to produce beneficial results. Very few Indian teachers are thoroughly imbued with the spirit of kindergarten. The so-called kindergarten methods are lacking in spontaneity, and the artificiality which characterises them offers no attraction to the infants. Though the book before us is not in any of the vernaculars of our province, we hope the book will prove helpful in remedying the defects of the system now in vogue.

Indian Educational Notes.

MADRAS.

THE Hon'ble Mr. A. G. Bourne, C.I.E., D.Sc., F.R.S., has privilege leave for one month and twelve days, from the 2nd January 1909, in continuation of the Christmas holidays.

Miss J. Patterson, Assistant Inspectress of Schools, West Coast Girls' Range, has privilege leave for one month, with effect from 16th November, 1908.

Mr. E. Thurston, Superintendent, Government Museum, has combined privilege leave and furlough for thirteen months and twenty-three days, from or after the 9th December 1908.

SERGEANT W. C. Old, Overseer, 1st grade, Public Works Department, is confirmed in his sub-protem appointment of Instructor in Surveying and Drawing in the College of Engineering, Madras, with effect from 2nd September 1907, and is to be a member of the Provincial Educational Service and to rank No. 3 in the eighth grade of the service.

THE sanction accorded in G. O. No. 583, Educational, dated 5th September 1906, for a grant not exceeding Rs. 3,500 towards the cost of constructing a special hostel in connection with the C.M.S. Sarah Tucker College, Palamcottah, will be renewed on the conditions specified therein, subject to the modification that the work is completed before the 30th October 1909 and the certificates of actual expenditure incurred on the work submitted before the 30th December 1909.

THE Government have sanctioned a grant not exceeding Rs. 3,370 or one half the actual cost, whichever may be less, towards the cost of constructing an additional building for the St. Joseph's Poor European Boys' High School, Calicut.

Mr. V. R. Venkatram Iyer, the Acting Inspector of Schools, who is now camping in Salem, presided at the Educational Conference held in the Government Training School on the 2nd instant. It was unanimously resolved that an Educational Exhibition should be held in Salem in February next. A strong and representative Committee was appointed to make the necessary arrangements. The Inspector of Schools of the Circle is to be the President. The Educational Department, Municipal, Local and other bodies are to be requested to contribute towards the expenses. Among the other subjects discussed was the School Final Examination. The Conference resolved to support the general principles underlying the recommendations of the Committee appointed to consider the School Final Test. The Chairman spoke at great length on the various recommendations of the Committee and some of the important problems that were engaging the attention of the Educational authorities. He brought the proceedings to a close by urging on the members of the Exhibition Committee to start work in right earnest and to make the Exhibition a success.

In the course of last year the Government made grants amounting to Rs. 1,24,417 and Rs. 1,47,555 respectively to District Boards to enable them to revise, in accordance with Rules 81 and 82 of the Educational Rules, the establishments of their elementary schools other than those which had been newly opened with the help of the special grant of six lakhs, and to meet the cost of maintenance in 1907-1908 of new rural schools opened in 1906-1907 and 1907-1908. The District Boards were requested to report at the end of 1907-1908 to what extent additional expenditure on these schools had been actually incurred out of the funds placed at their disposal. Those reports having been received from the Presidents of District Boards, the Government, in reviewing same, say "it is observed that there have, in some cases, been large lapses in the sanctioned grants owing mainly to the neglect of District Boards to take earnestly in hand the revision of establishments and the starting of the new rural schools. Thus out of grants totalling about 1½ lakhs for improving the staff of elementary schools, over ½ a lakh remained unexpended." The Director of Public Instruction has been requested to take into consideration the lapses referred to in submitting his proposals for the final distribution of the subsidy for the current year, if he has not already anticipated these savings in his final distribution for 1907-08.

Mr. A. Annaya Pandit of Mysore has sent a donation of Rs. 200 to the Madras Sanskrit College and informs the trustees that he shall arrange to contribute Rs. 200 every year. The Committee of the College have appropriated the kind contribution towards the maintenance of two scholars (S. K. Ramanatha Sastri and M. Ramanatha Sastri of the

Veda Bhashya Section) named after the generous-hearted donor Annayya Pandit Scholars.

UNDER the auspices of the Madras Social Reform Association, Dr. C. B. Rama Rao delivered a lecture on "Education in Japan" at the Anderson Hall, the Hon'ble Mr. P. S. Sivaswami Aiyer was in the chair.

Having returned from an extensive tour in Japan and other places, he had offered to give the members the benefit of his observations, and the Chairman said he had no doubt that they would be of great interest and value to them.

Dr. Rama Rao then read a long paper, in the course of which he said: The difference between Japan as it was in 1864 and as it is in 1908 was due to education, the effect of which had transformed the people in one single generation. Education was free and universal in Japan and was better than that prevailing in the United States, where it was compulsory. Dr. Rama Rao then proceeded to give details of the working of the great schools in Japan and said that the average age of the man entering the University was 23, and that the great majority of those who learnt English began the study of the language in the Secondary schools. In the Primary schools which were open to both boys and girls, there were about five millions of pupils. From this grade the boys and the girls were separated, and there were 258 Middle schools employing 4,600 teachers, educating 94,000 boys at the public expenditure of Rs. 23,70,000. There were 80 Higher schools for girls employing 1,170 teachers, of whom 750 were women, educating 21,000 girls at the public expenditure of Rs. 7,45,000. The Higher schools for boys were strictly for those preparing for the University and were maintained at a cost of Rs. 1,25,000. There were two Imperial Universities maintained at a cost of Rs. 7,80,000 and besides these there were also several private Universities which charged higher fees. Quite recently a private University had also been opened for the higher education of women. Dr. Rama Rao then went at great length into the system prevailing in Japan for the imparting of education in technical subjects, and in concluding said that the teachers in Japan were paid better than those in this country. The promotions of the students from class to class were guided by the daily marks awarded by the teachers and not by examinations. The school buildings were airy and well-ventilated. Military drill and outdoor exercises formed part of the daily routine of a student's life. The students had early training in moral character and were amenable to rules, and harsh measures were rarely required. The tie between the teacher and the pupil was only next to that between the parent and the child.

THE name of the Madras Sanskrit College, Mylapore, has been included in the list of persons and institutions in India interested in Sanskrit learning.

To the list of text-books for University Examinations under "M.A. Degree Examination 1911" the following has been added:—

English (Branch VI)

Chaucer:—The Prologue to the Canterbury Tales;
The Knight's Tale;
The Nun's Priest's Tale.

THE Madras Government have made a grant of Rs. 35,000 towards the building fund of the Victoria College, Palghat. It is now understood that the construction of the new buildings and the Hostel will be taken in hand immediately.

THE annual report of the Sarah Tucker College, Palamcottah, records with pleasure that an old student has joined the teaching staff as Mathematical Mistress. This lady has just taken her degree in Mathematics, she and another ex-student of the College being the first two girls of the Presidency to have passed the Mathematical Group. The addition of these Indian ladies to the staff is a valuable help to the work of the College, for though there have previously been Indian masters, neither they nor European mistresses could accomplish all that is possible to ladies of the same nationality as the girl pupils. The numbers on the rolls of the College remain about the same as last year, and though the attendance could speedily be increased by lowering the fees, at present the authorities do not feel justified in reducing the very moderate charges made.

THE Governor in Council is pleased to sanction a grant of Rs. 50,000 to the University of Madras towards the cost of establishing University Vacation Lectures on the condition that this sum is invested in Government securities, and that the interest on the investment is devoted to the purpose stated and not diverted therefrom without the special sanction of Government. If further funds are required for this purpose, the University must find them from the Fee Fund or other funds belonging to the University.

Sanction is also accorded under section XV of the Act of Incorporation of the University (the Madras University Act, XXVII of 1857) to the expenditure, on the establishment of lectureships and studentships, of the interest on the accumulated University Fee Fund, less any sum that with the sanction of Government may be devoted to vacation lectureships.

THE Government approve the proposal of the Director of Public Instruction to open a Government Muhammadan Girls' School at Mylapore on the same terms as those of the boys' school, referred to in G.O. No. 583, Educational, dated 8th August 1908, subject to the condition that arrangements are made by the parents and guardians of

the pupils for the conveyance of the girls to school. The proposition statement submitted with the Director of Public Instruction's letter read above, is sanctioned with effect from the 15th January 1909.

THE Government of India have sanctioned the grant of daily allowance to officers of the Indian Educational Service in the Madras Presidency at the rate of Rs. 5 per diem, being the rate admissible generally under the provisions of Article 1063 of the Civil Service Regulations to all officers of the first class, and have directed that pending the modification of entry No. 93 in appendix 25 of the Civil Service Regulations, officers of the Indian Educational Service in the Madras Presidency should be permitted to draw a daily allowance of Rs. 5 under the provisions of Article 1063, with effect from the 19th March 1908.

At the Senate meeting held on Friday, the 23rd inst., the motion of the Hon'ble Mr. V. Krishnasami Iyer recommending the affiliation of the B.G.M. High School, Calicut, as a second-grade College was after much discussion put to the vote and carried by a large majority, 35 voting for, and 3 against it.

THE University of Madras has resolved to have courses of lectures delivered to teachers in Physical Science, History, and Geography, during the next Christmas Vacation.

SPEAKING at a meeting of the Service Corps of Mahomedan Education Society Mr. Justice Abdur Rahim congratulated the corps on the silent and practical way they carried on their works which has during past year, consisted mainly in taking census regarding educational state of Mahomedans and making collection at Mosques and from house-to-house during festivals.

THE following G. O. has just been issued in regard to the submission of applications for building grants by managers of schools and institutions:—

"The attention of Government has been called to the fact that plans and estimates submitted by managers of schools and other educational institutions with applications for building grants are in many cases roughly and incorrectly prepared and that many necessary structural details are omitted. This leads to considerable delay in their scrutiny and often necessitates the preparation of fresh designs and estimates by the officers of the Public Works Department. In consequence it not infrequently happens that the cost of the buildings is raised to a figure considerably in excess of that anticipated by applicants. In order to avoid this delay and uncertainty, the Government consider it essential that such plans and estimates intended for

submission to Government, should be prepared and signed by some competent person. The estimates should invariably be prepared on the form prescribed by Government for use in the Public Works Department, copies of which can be obtained from the nearest Executive Engineer or Sub-Divisional Officer of the Public Works Department, and the instructions issued by the Director of Public Instruction in his Circular No. 3971, dated 29th May 1907, should be complied with in all respects. The Director of Public Instruction is requested to see that all plans and estimates submitted to Government with future applications for building grants are prepared in accordance with the above instructions."

MYSORE.

THE Government of Mysore have issued an order directing the introduction of religious and moral instruction in all Government schools from the commencement of the next month. The resolution and the method adopted are based on a report submitted by the Inspector-General who appears to have been working at the scheme for some time. Much has been said and written of late on the desirability and necessity of giving such instruction in public schools even in British India and it must therefore be interesting to watch the progress of the step taken by the Mysore Government. It would be too early at present to discuss the order under notice. The Government quote approvingly a passage from the report of the Inspector-General who sums up the results of the present system in the following words:—"Irreverence of all kinds and disrespect for authority have been on the increase. Moderation, self-restraint and good sense are at a discount while presumption, vanity and unrestrained aggressiveness appear to be increasing." The instruction is given to boys thirty minutes a day, soon after dinner in the Santana Dharma textbooks, the Koran or the Bible, or some text embodying a lofty principle of morality. The boys are expected to listen to these lessons very carefully, and to conduct themselves in accordance with the teachings. If the experiment proves successful, schools, at least private institutions, in the British provinces can also follow the example and perhaps benefit by it.

THE Government of His Highness the Maharaja of Mysore have directed that the separation of the High School Department of the Central College should be effected and a separate High School called the Bangalore High School be formed in January 1909. This will be located in the Government Anglo-Vernacular School building in the Fort, Bangalore, together with some of the classes of the Anglo-Vernacular School. A provision of Rs. 5,000 has been made for constructing a building, if necessary, for the location of the other classes of the Anglo-Vernacular School. A sum of Rs. 2,000 is sanctioned for purchasing Science Apparatus

and fitting up the Science Laboratory of the Bangalore High School.

TRAVANCORE.

TRAVANCORE is one of the best educated States in India—especially in female education. Last year there were 208 schools for girls; the pupils numbered 49,863, which gives 14 per cent. of the school-age female population, while in the Madras Presidency the percentage is only 5. In Trivandrum there is a second-grade college, with 9 pupils. The first Government school for girls was started only in 1866: so the progress made has been very rapid.

HYDERABAD (DECCAN).

THE annual grant given by His Highness the Nizam's Government to St. George's Grammar School has been reduced by Rs. 1,000 owing to the status of the school having been reduced from a High to a Middle School.

THE Oriental Branch of the Punjab University being no longer open to students from Hyderabad, owing to the introduction of the territorial jurisdiction of the Indian Universities, which places Hyderabad under the academic jurisdiction of Madras, it has been decided to have a University solely for the conferring of Oriental Degrees and Titles. The object of the University is to promote Oriental learning on the lines laid down in Western Academies. The proposed University will assimilate Western ideas by encouraging a spirit, or desire, for critical research.

BOMBAY.

THE third report of the New Girls' Anglo-Vernacular School, Hyderabad, Sind, shows that the number of girls on the rolls in January 1908 was 112. The curriculum followed was the same as in previous year. In music, knitting, cutting, sewing and crotchet work the girls have made excellent progress. The girls take special interest in drawing also. In the First Grade Examination out of 11 girls 4 were successful. During the year 1907-08 the expenses of the school came to Rs. 4,002 while the receipts were Rs. 3,907.

THE Government of Bombay have issued the following press note:—The Governor has for some time been aware of the necessity for improving the pay and prospects of the teaching staff in local Board and Municipal Primary Schools. He considers it desirable that no master should be employed on a minimum pay of less than Rs. 9. The cost entailed in adopting this proposal is estimated to be Rs. 98,784 per annum. To avoid further delay in carrying out this pressing reform the whole of the extra charge in the Presidency proper will be borne by the Government for three years,

at the end of which half the cost will be required from the local bodies concerned. In Sind half the cost, amounting to Rs. 1,344, will be recovered from local bodies at once. The increased rate of pay is sanctioned with effect from 1st September, 1908. The charge for six months of the current year will be met from the provision of Rs. 50,000 made on this account. The cost will be paid to Boards in the shape of additional grants.

The proposal to raise the pay of primary schoolmasters to Rs. 10 per mensem after five years' service has also been approved by the Government, and will be carried out as funds permit.

At a meeting of the Bombay University Senate the proposal to spoil the University garden by erecting an examination hall therein with funds offered by Sir Cowasji Jehangir was practically shelved, the whole matter in face of public opposition being referred back to the Syndicate for further consideration.

It is extremely gratifying to observe the way in which the idea of improving Science teaching is being taken up by wealthy philanthropists in this Presidency. Following the examples of Sir Cowasji Jehangir and Mr. Jacob Sassoon, Mr. Chinubhai Madhowlal, of Ahmedabad, has placed at the disposal of His Excellency the Governor four lakhs of rupees to be applied towards the development of Science at Ahmedabad in connection, if possible, with the proposed Central Institute at Bombay, to be named after his father, the late Mr. Madhowlal Ranchorlal. Sir George Clarke in thanking Mr. Chinubhai warmly for his most generous offer, enabling the establishment at Ahmedabad of a branch Institute for the teaching of Science, wrote:—"Your fellow-citizens will, I am sure, receive with enthusiasm this fresh instance of your fine public spirit, and I am certain that it will be a source of the greatest satisfaction to you to feel that you have enabled sound Science teaching to be given in the important capital of Gujarat. The response to my appeal for means to develop Science teaching in the Presidency is far more generous than I dared to hope, and the splendid benefactions, amounting to eighteen lakhs, prove alike the large-hearted patriotism of the givers and their recognition of one of our greatest educational needs."

A RECEPTION was held at the Y. M. C. A. in honour of Professor E. De. Witt Burton, Professor of New Testament Interpretation in Chicago University. Professor Burton has been sent out by the Chicago University to visit India, China and Japan and to report methods and results of higher education in these countries and the work of the Young Men's Christian Association.

At the reception the Hon. Mr. H. E. E. Proctor presided while among those present were:—Sir Walter and Lady Hughes, the Hon. Mr. Justice N.G. Chandavarker, the Rev. Dr. Mackichan, Mr. A. H. S.

Aston, Dr. S. S. Bottlewalla, Messrs. Lalubhai Samaldas, N. G. Velinkar, Mirza A. A. Khan, N. V. Mandlik, D. R. Chichgur and others.

In referring to Professor Burton's work in India, the Chairman said he had come to India on a six week's tour and would study the educational problems as obtaining in this country. There was perhaps no subject more interesting at the present day in India than education and every newspaper in the land and every member of the Legislative Council had discussed it. It seemed there was something faulty in the educational system in India. The religious foundation was wanting in education in India. The Y. M. C. A. was specially interested in the work of education as it was a religious body. To make the educational system successful in making good citizens it was necessary that education should have a religious foundation. The Young Men's Christian Association were contemplating building a college where religion would have found its proper place in the curriculum, but the building of the college had to be postponed as they could not secure a site on Sandhurst Road.

Professor Burton thanked the meeting for the reception they had given him. He took it that the honour was to the University which he represented, and the country to which he belonged. As regards education, he had noticed an important omission in the programme of the Indian Universities. Chicago spent several thousand pounds on their publications every year without making any profit and these publications were a part of the educational system; in India, nothing was being done in this direction. He hoped to make the best of his time in India and study the educational problem in this country.

The Hon. Mr. Justice Chandavarkar, in proposing a vote of thanks said that he welcomed Professor Burton on behalf of Indians in general as they always liked to have among them men of intellectual and spiritual attainments, with whom they could exchange views and receive new lights and grow wiser by it.

Mr. Jacob Sasson has recently offered ten lakhs of rupees to the Government of Bombay towards the creation of a central Science institute on modern lines named after him. It is to be open to all students and located near the present University of Bombay. The Governor in accepting the generous offer replied to Mr. Sasson that it would enable him to provide for teaching in the higher branches of Science, and that it would now wipe away the objections which have been raised to the centralisation of Science teaching.

Mr. Jacob Sassoon has given Rs. 500 to the fund to the education of depressed classes.

Miss Framji Dinshaw Petit has decided to hand over to a set of Trustees her jewellery valued at

about Rs. 10 to 12 lakhs with the provision that the same should be sold and the proceeds thereof devoted towards the establishment of a Parsee Girls' Orphanage. The institution is to be named after the donor's mother.

We hear that Professor H. B. Lees Smith, of the London School of Economics, and of Ruskin College, Oxford, has been invited by the Government of Bombay to deliver a course of lectures at the local University in furtherance of commercial education in Western India. According to an interesting note issued by Sir George Sydenham Clarke, preference has been given to a plan for extending higher education in India itself with a view to the establishment of a chair of Commerce at one of the Government colleges. A plan favoured in some quarters was that of a course of education leading to scholarships at the English Universities, but this has been rejected by the authorities with the approval of the leading merchants of the Presidency. The cost of the favoured scheme is put at £450, which, it is proposed should be borne jointly by the local Government and the commercial associations of Bombay.

BENGAL.

The Government of Bengal has prepared a comprehensive scheme for improving secondary education in that province, and it will cost over fifteen lakhs.

The Government of Eastern Bengal express their appreciation of the liberality and public spirit shown by Ra-Jogendra Kishor Rai Chaudhuri Bahadur, Zemindar of Ramgopalpur, Mymensingh, in offering a donation of Rs. 30,000 towards the funds of the new college at Mymensingh.

APPLICATIONS for the scholarships for the encouragement of the scientific study of Sanskrit and Arabic by natives of India during the current financial year should be submitted to the Director of Public Instruction, Bengal, not later than the 30th November 1908.

The Calcutta University has decided to offer the Bireswar Mitra Prize to an essay on "Preferential Tariff—How is it likely to effect Indian Trade".

Two Special Junior Scholarships of Rs. 10 per mensem are, with the sanction of Government, awarded to Bhuban Mohan Datta and D. Mecklington, tenable for two years, with effect from the 1st May 1908, at the Chittagong College and the Scottish Churches College, Calcutta, respectively, subject to the usual conditions of good conduct and satisfactory progress.

PUNJAB.

The Government of India have recently, on the recommendation of the Chief Commissioner, sanctioned the following special scholarships for the North-West Frontier Province:—

Two Victoria scholarships of the value of Rs. 10 each, tenable for two years, to the best Muhammadan students who pass the Entrance Examination of the Punjab University.

One close scholarship of the same value to the best Hindu student who passes the same test.

One close scholarship of the value of Rs. 14 to be awarded to the best Hindu and Muhammadan student alternately who pass the Intermediate Examination of the Punjab University.

A Professor of Pathology has been sanctioned for the Medical College, Lahore, as well as three Demonstrators.

UNITED PROVINCES.

PERMISSION given recently to the students of the M. A. O. College, Aligarh, to discuss political matters in their debating society has been withdrawn at the instance of the trustees.

AFGHANISTAN.

Dr. Mahommed Abdul Ghani Khan, Director of Public Instruction in Afghanistan, has performed his duties in a most efficient manner and doing his utmost to spread education there. Thousands of students are receiving education, and their number is daily increasing. His Majesty the Amir is so pleased with the work of the Doctor that he has increased his salary from Rs. 600 to 900 a month.

INDIA (GENERAL.)

The replies of the Local Governments on the question of primary education in India have now reached the Government of India and are being considered. The whole question is largely one of funds.

It is announced in London that the scheme to convert the Serampore College into a Christian University has now taken definite shape, and that an appeal is to be issued for £225,000, the amount required for the purpose.

Sir Francis Lovell proceeds shortly on a special mission on behalf of the London School of Tropical Medicine. He will visit Hongkong, the Straits Settlements, Ceylon and India.

Professor Schuster, Owen's College, Manchester, who has been travelling in India for some months past, has arrived at Simla from Leh.

XIV

The following gentlemen have been appointed by the Secretary of State to be members of the Indian Educational Service:—

Mr. Austin Wyatt James, B.A., to the temporary vacancy caused by the grant of leave to Mr. Brett, Professor of Philosophy in the Government College, Lahore.

Mr. Edward Stokes, B.A., of Adelaide University and Magdalene College, Oxford, to hold the appointment of Headmaster of the District School, Bareilly.

Mr. Stanley Gerald Dunn, M.A., of Jesus College, Oxford, to hold the appointment of Professor of English at the Muir Central College, Allahabad.

Mr. Edward Philip Harrison to hold the appointment of Professor of Physics at the Presidency College, Calcutta.

Mr. Harvey Banister, B.Sc., lately Professor of Physics at Meerut College, to the Headmastership of Queen's Collegiate School, Benares, in the Indian Educational Service.

Mr. V. S. Sundaram, B.A., Madras University, and Mr. Pulin Behari Das, M.A., Calcutta University, have, on the results of the competitive examination held in August last, been selected for appointment to the Enrolled List of the Finance Department of the Government of India.

THREE Indians only figure in the list of successful candidates in the Indian, Home and Colonial Civil Services. All are from Western India. Mr. Nowroji Jehangir Wadia, who is twenty-seventh, is a member of St. John's College, Cambridge, and obtained a second class in both the parts of the Historical Tripos. Next to him occurs the name of Mr. Jagannath Luxmon Sathe, of the same college, who secured a first class in the Natural Science Tripos. The other Indian, Mr. Jonardan Atmaran Madan, who is fifty-fifth on the list, is an unattached "junior Indian student" at Oxford.

Foreign Notes.

GREAT BRITAIN.

The Chair of Pathology at Aberdeen University is vacant, Professor D. J. Hamilton having resigned through ill-health. The appointment is in the gift of the Crown, and is of the value of £900 a year; but the field of candidates for this and many similar chairs is considerably limited by the restriction that the occupants must not engage in private practice.

Mr. Carnegie's benefactions to date are estimated to amount to thirty millions sterling and include 1,400 Libraries, costing eight and a half millions,

fifty one Colleges, costing upwards of a million and a half; the Carnegie Institutions, costing two millions; the Carnegie foundation for pensioning Retired Professors, costing three millions; the Carnegie Relief Fund, of nearly a million; Scottish Universities, three millions; The Hague Temple of Peace, costing £600,000; the Pittsburg Technical Schools, costing two millions; the Pittsburg Museum of Art, costing £400,000, etc.

PENSIONS for professors have been established in America by Mr. Carnegie: while at Birmingham University they are to be provided by the contributions of the beneficiaries themselves.

A VERY high standard is maintained by the Oxford and Cambridge School Examination Board. In the last "Lower" certificate competition, less than half the candidates passed: at the last two examinations for "School" certificates only one-third.

A SLUMP in the poetry market is alleged. A few weeks ago an appeal was made through the press to the English-speaking world for £2500 to place the Cowper Memorial Museum at Olney on a permanent basis. The English-speaking world subscribed £3.

OVER 3000 University Extension Lectures formed part of the life-work of the late Prof. Churton Collins, but his career as a University teacher was limited to four years' professorship at Birmingham. Prof. Churton Collins also took a conspicuous part some years ago in securing the recognition of English Literature as a subject of study at Oxford: and the latest development of his activity was the inauguration of a special University course in journalism at Birmingham—an experiment which has been postponed for a year, owing to his unfortunate death.

SIR Oliver Lodge, in the August number of the *National Review*, pleads for financial assistance to Birmingham University, and the *Morning Post* vigorously enforces his plea in a lengthy article. The most striking thing about Sir Oliver's article is "that it is true not only of Birmingham but of every University and University College in Great Britain."

THE Third International Congress of the History of Religions was held at Oxford under the presidency of the Right Hon. Sir Alfred Lyall. The work was distributed in nine sections.

THE University of London has just established an Advanced Certificate in Religious Knowledge, de-

signed specially to meet the needs of teachers. The subjects of the examination are divided into two groups—compulsory and optional. The first examination will be held in January.

THE Birmingham University have organised for the coming session a course of systematic instruction and practical training. The University will provide lectures, accompanied by practical demonstrations, secure facilities for visits to public institutions, &c. The curriculum extends over one year and consists largely of evening lectures. The lectures will deal with the British constitution, local Government, industrial history, history, economic analysis, &c.

Dr. Henry Julian Hunter has left some £14,000 to Sheffield University.

THE buildings of the Eton College, built anew after the destruction by the South African war, have been valued £40,000.

A SCHEME for the inspection and examination of schools combined with a system of school certificates, has been initiated by the Joint Matriculation Board of the Universities of Manchester, Leeds and Sheffield. The senior school certificate will be of the standard of the Matriculation certificate, and holders of such a certificate will be exempted from the Matriculation Examination, provided the certificate bears the proper subjects.

LORD Curzon's scheme of reform for Oxford University includes the opening of degrees to women on the same basis as to men.

SWITZERLAND.

ONE of Dr. Zamenhoff's most prominent pupils, M. de Beaufort, of Geneva, has founded a new "universal language" on the basis of Esperanto, of which he was a warm supporter. The new language has been named "Ido," and its inventor claims that it is easier to learn and is more methodical than Esperanto, its parent.

AMERICA.

THE Educational Department of the United States recommends that all fairy tales and fables be discontinued to be read in the public schools of the United States.

IN Victoria, manual training has proved itself not only one of the most popular but, at the same time, one of the most valuable, of the new departures taken by the Department during recent years.

THE Government of Queensland has decided to grant fifty district scholarships for grammar schools. Each scholarship will have a currency of three years, and the grant will be made each year as long as Parliament provides funds for the purpose. Each of the ten grammar schools in the State will have five scholarships allotted to it.

Dr. Frederick H. M. Blaydes died at South Sea in his ninetyeth year. He was (says the *Athenæum*) "a well-known classical scholar, who had a reputation on the continent as well as at home. He did a large amount of valuable work in his editions of *Æschylus*, *Sophocles* and *Aristophanes*, and some of his emendations are likely to hold a permanent place in classical literature."

A CHAIR of Irish History has been founded in the University of Notre Dame—the largest Catholic Educational Institution in the United States.

THE system of itinerant teachers was introduced in Queensland in 1901, when a teacher was appointed to travel through the State. In 1907 two more were appointed. They travel in the places where there are no schools and the children whom they try to teach are those belonging to selectors, graziers, stockmen, boundary riders, grooms, fencers, carriers, and the like who are unable to pay for tutors and who cannot send their children to schools for education. The system is receiving much encouragement and has every prospect of being greatly extended.

AN exchange of teachers between Prussia and United States is to go into operation, being managed

by the Prussian minister of Public Instruction and the Carnegie foundation for the advancement of teaching. The plan was suggested by the Prussian Government which will send over a dozen teachers.

RUSSIA.

THE Russian minister of Public Instruction has announced that official sanction will not be accorded to any of the Russian Universities to grant honorary degrees to Count Tolstoy.

POPULAR education in Russia makes progress, despite official opposition. It is difficult for those residing in more favoured countries to realise the obstacles thrown by the Tsar's Government in the way of an extension of general education. It is extremely difficult to get permission to open a popular University; in West Russia it is impossible. All that is attempted is exposed to the censorship of the casual police officer. At Saratoff lectures on Nietzsche and Schopenhauer were prohibited, at Kharkoff lessons might not be given on the feeding of children. At Kieff proposed lectures on tuberculosis and Nova Zembla fell under the ban; at Ekaterinoslan the University was refused sanction to teach anything at all. Yet the people are seeking instruction with almost passionate earnestness and some figures now published, following the First Congress of Popular Universities, are impressive. At Warsaw the University for All has had 85,000 attending its courses during the last eight months; at Nijni Novgorod 520 lessons attracted a total of 42,881 listeners. The numbers attending at other centres, have been relatively as great, and pathetic stories are told of individual efforts to secure the benefits of this avenue to enlightenment. No official discouragement can long suppress a movement so virile as this.

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The Educational Review.

The First International Moral Education Congress was held at the University of London during the last week of September. Fifteen European and other nations signified through their ministers of education their approval of the objects of the Congress. Nearly 150 papers were submitted, representing the views of Dutch, Italian, Danish, Austrian, Swiss, Hungarian, Belgian, German, French, English, and American writers. The Congress was presided over by Dr. Michael E. Sadler, the distinguished Professor of Education in the University of Manchester. In his address the President laid stress on the necessity for provision in training colleges of a sounder preparation of teachers for the work of moral education. He also pressed for the reduction of the size of classes in elementary schools. In England there were about 5,994,490 children in the elementary schools, taught by 84,274 certificated teachers. There was therefore an average of seventy-one children to each certificated teacher. The classes being too large and the system too mechanical, the results could not be very beneficial. Besides the presidential address there were two important papers read at the first session of the Congress by Dr. Wilhelm Foerster from Germany and M. Emile Boutroux from France. The former referred to the expression of morality as "God's will" as "the language of the past," and described the ethical life as an effort of the human will to get into helpful relation with the external world and to harmonize the social ideas, feelings and experiences. The latter emphasised that in the State schools ethical teaching must necessarily be limited

to such moral ideas and methods as were common to all forms of religion and metaphysics and that such a procedure would not imply any denial of the validity of religious and metaphysical sanctions, which, as belonging to science and life in general, were inappropriate to the school. The formation of character by discipline, influence and opportunity formed the subject of discussion in the third session. Dr. C. N. Starcke of Copenhagen pointed out that the sins of infants against good manners were never of such a grave nature as to merit punishment, and Dr. Sophie Bryant claimed that the appreciation of order was, in spite of appearances to the contrary, a spontaneous quality of ordinary children. Sir A. Hart of Harrow amusingly illustrated how discipline by teachers was checked by self-government of scholars by prefects, monitors, &c., by an anecdote of a small boy who disobeyed a teacher rather than a cricket captain. Madame Landolphe from Paris insisted on the value of example, while M. Albert Bayet put a ban on rewards and punishments, and suggested that private conversations with pupils should yield opportunities for praise and blame. We should think that if lessons were made more natural the pupils would find their own reward in the interest and joy of doing, and their own penalty in the ugliness of bad work and the social inconvenience arising from it.

In the fourth session the chief theme was the problem of moral instruction. The discussion was opened by Professor John Adams, a leading Herbartian, who spoke of the educator's business as the building up of the soul with the aid of ideas, which, being the paid-up capital of experience, represented the power left behind as the result of the exercise of function. Professor Adamson

regarded the "humanistic studies" (literature, history, &c.) as the best channels for the conveyance of ideas, and could not find much place for mathematics or science. We, on the other hand, think that every lesson can be made primarily an ethical lesson, and that the scientific habit of mind is as essential to moral education as the best humanistic study. Only the natural sciences, using the term in its broadest sense, can develop the power of synthesis, that is, the power to group one's ideas and experiences into a serviceable unity. Even manual training, though it may have no inherent moral content, can be made to wield a moral influence. Some of the speakers endeavoured to make the Bible the supreme source of illustration for ethical lessons. With equal, if not greater, cogency we can have recourse to the scriptures of other peoples (Chinese, Japanese, Hindus) for finding material for illustrating what Dr. Stanton Coit calls "the growth of justice through the long centuries of a nation's struggles and the evolution of human insight into the requirements of justice."

The controversial question of the relation of religious education to moral teaching was dealt with in the fifth session. After owning some debt to positivism Professor Muirhead found a grand sanction for moral conduct in the somewhat grandiose but meaningless expression, "the general purposes of the universe." We are in complete agreement with Mr. Gustav Spiller, Secretary to the Congress, who observed that men in all walks of life were coming more and more to assert the supreme importance of the moral factor in all the relations of life apart from all theological and metaphysical considerations, and to regard "the passion for humanity," as Seeley put it, as the only genuine, and at the

same time the most powerful moral motive. The sixth session was devoted to the consideration of systematic moral instruction. No sane educationalist would take objection to the following observation by Professor Mackenzie. "However true it may be that morality and religion have their common root in the idealism of human nature, yet it is possible to admire heroism, straightforwardness, and generosity, and abhor selfishness and meanness, without committing oneself to any view on those ultimate problems of the universe and human life on which thinking men are so sadly divided. It is also possible to give attention to those important questions of civic life which are, I believe, always included in any scheme of moral instruction—questions of health, cleanliness, social order, purity, and beauty—without distinction of creed or form of worship." The same broad-mindedness also pervaded the papers of Dr. Bang of Copenhagen, Professor Hoffman of Ghent, Rektor Hoft of Hamburg and Dr. F. W. Foerster of Zurich. The last invoked the teacher to lead his pupils gradually to the thought of the Perfect, by making them reflect on perfect honour, perfect truthfulness, and perfect knightliness. We are in perfect accord with Dr. Penzig of Charlottenberg who contended that the best moral lesson was one in which the child was inspired and impressed without his feeling that he was the subject of a didactic system. In the youngest classes moral instruction must necessarily be indirect; only in the higher stages there can be regular direct lessons on the duties and rights of men and citizens, elementary notions in the administration of justice, practical notions of the principal penal enactments and of civil and commercial obligations, hints on the laws of

labour and on mutual and thrift institutions, and so forth.

The seventh and eighth sessions embraced a miscellany of subjects. Mr. Cloudesley spoke on the Idea as a dynamic factor in child-training and indicated the manner in which the child's gratitude to the past might be awakened. The child must be made to feel that he is born a debtor to the past for its self-sacrifice and civilising effort and that this crushing debt could be repaid only by his doing something in return for posterity. M. Rene Brodin boldly demanded the name of religion for the ideal. A few essays dealt with the intellectual element in moral education. While M. Daumers of Brussels subordinated all education to the final dignity of conduct, M. Gabriel Seailles of the Sorbonne advised that the child's rational activity must be kept alert. Physical education had some share of consideration. Colonel Onslow and Mr. Eugene Sully deprecated mere games, for many games in themselves tended to selfishness, and did not make for discipline, as each was for himself, instead of all for a common objection. Though we agree with this statement, we cannot accept the superiority they claim for gymnastics by putting forward as its results such qualities as temperance, obedience, courage, discipline, which are non-moral, though they may be useful channels for morality to act in. The relation of home and school formed the subject of four or five papers. Professor Gach of Alais contended that the inscription over college portals should not be literature, history, science, but rather family, country, humanity. This conclusion tallies with the view we have often expressed that boarding institutions are a vestige of the monachism of the Middle Ages and are contrary to the true humane spirit.

We are glad to find that the appeal of the Governor of Bombay for funds to improve the teaching of science in Bombay has met with a hearty response. Some of the merchant princes of Bombay have made munificent offers. Mr. J. Sassoon has given 10 lacs of rupees for the establishment of a Central Science Institution on modern lines open to students of all colleges. His Excellency Sir George Clarke trusts that with the public aid he has already received he would be able to provide for teaching in the higher branches of science as well as for a good grounding for all students. Not infrequently large sums of money are spent upon fine buildings and special equipment, while the results achieved are comparatively poor and no better than those achieved in poorly equipped laboratories. The reason is not far to seek. The achievement always depends upon the men, who are capable of inspiring enthusiasm and zeal. As Professor Sadler puts it in one of his reports, "the human element is that which alone makes educational expenditure remunerative. Ineffective or incompetent teachers in gorgeous buildings are as costly a form of waste as would be handsome tram-cars on expensive lines of rail without electric power to move them. A first rate teacher in a rough shed is worth whatever will secure and retain his services." What India needs is first-rate teachers, who will be sources of inspiration and not mere title-bearers, for whom their motherland has no need.

Under the heading "Political movements—Discipline in Colleges and Schools" the Government of Bombay have issued a resolution dealing with the question of meas-

ures for the protection of pupils from evils resulting from their incursions into political affairs. Though we agree with the general tenor of the resolution, we regret to find in it many statements to which thoughtful teachers would demur. It is said that the advance of education has been accompanied by relaxation of discipline and a lowering of the standard of manners in schools and colleges. We can not help regarding this as a gross exaggeration, due to want of sympathy on the part of the government for the political aspirations of modern Indians. We are of the same opinion as Dr. Edward Caird in thinking that practical politics is not the business of students, but at the same time point out that "it is a symptom of political disease when the student plays an active part in political life, it is an indication that the state and the men who guide it do not meet and satisfy the instinctive demands of the national spirit." The aim of education is to put one in the way of earning an honest and independent livelihood, to make him a stalwart citizen who will bear arms for the rights and liberties of his motherland, and to befit him to work for the prosperity and glory of his country. Judged from this standard, the results achieved by the education imparted in our schools and colleges have indeed been poor. Nevertheless owing to the liberal educational policy inaugurated by Lord Macaulay the poor education given to the Indian has enabled him to clearly understand his political situation and has created in him an intense desire for the political betterment of his country. Our country at present is comparable to Germany in the early half of the last century. German patriotism was then officially prosecuted as high treason. The German princes and statesmen, either owing to weakness or to narrow individu-

alism, did not care for the creation of a united state, which was absolutely necessary for the very existence of the German people. Who threw themselves into the breach? It was the teachers and students who kept alive the consciousness of the necessity of national political unity. The force of ideas is not only stronger than the force of arms but it is also the strongest. May the Indian students and teachers of the twentieth century be imbued with sufficient earnestness and zeal to endeavour strenuously for the political and social unity of the Indian people to their own honour and the welfare of their motherland, under the fostering care of the British Sovereignty.

During the sittings of the British Association at Dublin a discussion on instruction in the Universities as a preparation for commerce and business life. If Universities are to fulfil their duties completely, they must bring themselves into contact with all strata of society, they must become places for the training of all the activities of life. They must turn out not only doctors, parsons, lawyers but also men of every calling. The commercial superiority of Germany, of which we hear a great deal at the present day, is due more or less to the large number of trained specialists employed by German commercial firms. Great attention has been paid to the training of specialists in the commercial colleges (*Handelsakademie*) of Germany. Some of the State Universities of America have achieved astonishing success in respect of commercial studies. The Universities of Birmingham, Manchester and London have added faculties of commerce. Why should not the Indian Universities take a

leaf from these Western countries? With a good secondary education as a basis, it must be possible to give a training in economics, accountancy, business organisation and commercial law, and thus enable young men to acquire a mastery of business life. Generally in such matters the aspirations of the Indian receive little response from the powers that be. Not long ago an Industrial Conference was held with great eclat at Ootacamund under the auspices of the Government, and the Indians hoped that some great benefit would come from it. But what has been the result? A change in nomenclature. An officer, who has hitherto been called the Director of Technical Inquiries, is to be called the Director of Industries, and he is to correspond directly with Government in the Revenue Department instead of through the Board of Revenue. In the Government Order in regard to the Conference there is not a word on the establishment of a technological institute in Madras which was unanimously voted for. Similarly when we ask our Universities to make provision for commercial instruction, we shall not be surprised if we are told that no money is available for such luxuries, while money is always plentiful and handy for less useful purposes.

The province of Mysore had made a name for itself as a forward and progressive State. But the statesmen at the helm do not seem to be satisfied with the reputation already acquired. They seem now to be courting notoriety by proclaiming to the world the orthodoxy of the State. At the present moment, as Sir Alfred Lyall told us in his presidential address at the Oriental Congress recently held at Oxford, the European States were inclined to dissolve

their alliance with the churches and to arrange a kind of judicial separation between the altar and the throne. No civilized State considers it proper to assist in the propagation of doctrines. Japan, the country which has profited most by the experience of progressive Western States, has strictly prohibited religious education in her schools. All this counts for nothing with the veteran statesmen of Mysore. It would appear that "irreverence of all kinds and disrespect of authority have been on the increase" in Mysore. We know what value is to be attached to such bald assertions. But this seems to be a sufficient warrant for the Mysore statesmen to teach in their schools the divine right of sovereigns. Hence a fiat has gone forth that religious education should henceforth be compulsory in all State and aided schools. Sivaism, Vishnuism, Jainism, Christianity, Islam will be taught to their respective adherents. Knowing as we do how the followers of these faiths often quarrel with each other and what puerilities characterise these religions, we hope no disastrous consequences will accrue to the State. Some English officials hurrah the State of Mysore and ask the British Government to follow the example of Mysore. They think that religious education on orthodox Hindu lines would serve as a countermove against the healthy growth of a national spirit in India. But we fear that these officials are not sufficiently acquainted with the true spirit of orthodox Hinduism. As Lord Morley has said in one of his books, a system of religion which sustains and instils into youthful minds tenets intrinsically false, after the reason and conscience of the well-informed have ripened for the rejection of the falsehood, cannot but prove an enormous evil.

In the Educational Science Section at this year's meeting of the British Association a number of papers of great value were read. Professor L. C. Miall, F.R.S., the president of the section, delivered an address on "Useful Knowledge." Useful knowledge is not the same as a knowledge of useful things. The three main factors in determining what is useful are aptitude, inclination and opportunity. The address contains an eloquent protest against the over-loading of the time table. In a paper on "Acquirement in education" Dr. Archdall Reid pointed out that the best educational subjects were those which at the same time supplied useful knowledge and exercise the thinking faculty. Obviously one condition of the usefulness of knowledge is that it shall be remembered. The things that are remembered are either very impressive things or those which become linked with our subsequent experiences, so that we are frequently reminded of them. Much that school or college teaches at present does not link up with the experience of the subsequent and therefore is forgotten as soon as may be, and is therefore useless.

A sub-committee of the committee on the curricula of secondary schools presented its report of an inquiry into the sequence of science studies in the science curriculum. The following are some of the recommendations made by the sub-committee. The boys should be made to feel from the first that the study of science is an essential part of their education. In all preparatory schools some mensuration should be included as part of the mathematical work. But an essential part of the preparatory course in science should be natural history (including some physical geography) and the rudiments of physics. The real value of these studies depends upon training in observation. No school course can be

considered complete without two years' systematic practical work in science. Though quantitative methods are important, qualitative work deserves equal encouragement and respect. Mere quantitative work has a tendency to produce students who, as Professor J. J. Thomson says, commence their career by knowing how to measure or weigh every physical quantity under the sun but with little desire or enthusiasm to have anything to do with them. There must be greater correlation between mathematics and physics. Much of the work which is done in the physical laboratory can be advantageously transferred to the mathematical classes. Mensuration, including the greater part of the work frequently described as elementary physical measurements, should be part of the mathematical teaching. The work in the physical laboratory should, even at the beginning, be of a truly experimental character.

The opinion of the sub-committee on the influence of external examinations upon the teaching of science deserves the consideration of Indian Universities. The influence is found to be harmful. The harm is produced partly by having to work along the lines of too rigid a syllabus, but chiefly from the fact that science is intended to teach principles, while the examination asks for details. A boy may have derived the full benefit from a course of science lessons without remembering the experiments therein; for the examination, however, he has not to repeat these experiments; he has to memorise them, and to study how to reproduce what he remembers in the approved examination style. Anything further from true scientific method could not possibly be conceived. Working on the lines of a prescribed syllabus limits the teacher's initiative and discourages research methods. The

syllabus in nearly all cases prescribes too much for the majority of schools, and, therefore, too much is attempted in the schools. This prevents sufficient attention to the scientific method of inquiry. There are many branches of science, but one scientific method. This consists in obtaining facts and ideas by experiment or observation, classifying and comparing them, and discovering a formula or principle to express them. All the school work in science should be imbued with the aim of cultivating an appreciation of and familiarity with scientific method. Examinations will continue to impede this aim in so far as the school work is forced to conform to the examination rather than *vice versa*.

At the last meeting of the Senate of the University of Madras, a mission was granted to the Syndicate to arrange for a course of lectures during the next Christmas vacation on physics, chemistry, history, and geography for the benefit of teachers in high schools. Such vacation lectures are common in the Universities of Europe, America and Japan. To be productive of benefit the lecturers must be men of deep knowledge in their special subjects and

capable of inspiring enthusiasm. Not infrequently the lecturer is no better than his students. Last year it was bitterly complained that the lectures on geometry were insipid and were not in any way helpful to teachers. At the present day the general principles of any study we can learn at home from books, and in a well-equipped laboratory with the aid of a suitable printed guide we can acquire also skill in practical manipulation and measurement. But to become exact and fully furnished in any subject of teaching which is diversified and complicated, we must consult the living man and listen to his living voice. The colour, the tone, the air, the life, which makes a study live in us, we can catch only from those in whom it already lives. There can be no use in appointing lecturers who would repeat parrot-like from books or follow instructions, or merely superintend work in laboratories. The lecturers must be capable by their own merit to win the respect of their hearers. If this cannot be done, the University will be simply throwing away its money, as it would appear to have done in connection with its lectures on geometry. We hope the results achieved this year would be more beneficial.

ON GOVERNMENT AND PATRIOTISM A PAMPHLET IN TAMIL

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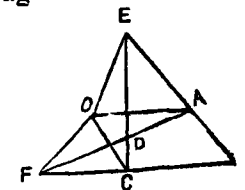
MATHEMATICS.

[Conducted by B. KRISHNAMACHARI, M.A.]

8. [B. KRISHNAMACHARI, M.A.]. The straight lines EAB, EDC, FDA and FCB form four triangles in one plane. O is the common point of intersection of the circles circumscribing these triangles. Prove that the rectangle contained by OA and OC is equal to the rectangle contained by OE and OF.

Solution by KELA DEVA RAO, B.A., L.T., P. V. KRISHNAIAH, B.A., P. S. SUNDRAM IYER, B.A., L.T., GURUSWAMI SASTRI, and others.

The circle circumscribing the triangle BCE passes through O.



Hence $\angle OEB = 180^\circ - \angle OCB = \angle OCF$.
The 4 points E, O, D, A are concyclic.
 $\therefore \angle EOA = \angle EDA = \angle FDC = \angle FOC$
since F, O, D, C are concyclic.
Hence Δ s FOC and AOE are similar
sb. $\therefore \frac{FO}{OC} = \frac{AO}{OE}$
ca. $\therefore \text{Rect. OE.OF} = \text{Rect. OA.OC}$.
par. [B. KRISHNAMACHARI, M.A.] Find a
hist. al solution of the equations $x^2 + y = a$,
and $y^2 = b$.
valu. lution by the PROPOSER.
in d. ppose $y = lx$.

XIV

Then we have by substitution in the given equations

$$x^2 + lx - a = 0$$

$$l^2 x^2 + x - b = 0$$

Eliminating x from these equations, we have $(a^2 - b)l^4 + al^3 - 2abl^2 + bl - (a - b^2) = 0$. (i)
From the first of the two equations

$$x^2 + lx - a = 0,$$

$$\text{we get } x = \frac{-l \pm \sqrt{l^2 + 4a}}{2}$$

$$\text{giving } y = \frac{-l^2 \pm l\sqrt{l^2 + 4a}}{2}$$

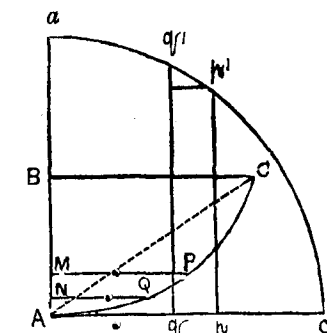
where l is a root of the biquadratic (i).

11. [V. RAGHUNATHAN]. Prove by elementary methods that the line of quickest descent from a point A to a point C is the arc AC of a cycloid.

Solution by V. GURUSWAMI SASTRI.

Let AB be the axis of the cycloidal arc AQPC, C being the cusp.

Let the point slide down from C.



Take any small arc PQ and draw PM and QN perpendicular to AB. Draw the tangent at A and take Aq, Ap, Ac equal to arcs AQ, AP and AC.

Suppose a particle moves from c to A in the same time that the particle moves from C to A along the arc, their velocities being equal at equal distances from A.

Let T be the time of falling the vertical height BA; so that $AB = \frac{1}{2}gT^2$.

Let v be the velocity at any point P or p so that $v^2 = 2gBM \therefore v^2T^2 = 4AB.BM = 4AB(AB-AM)$.

$\therefore v^2T^2 = 4AB^2 - 4AB.AM = AC^2 - AP^2 = Ac^2 - Ap^2$.

Describe a circle with centre A and radius Ac and erect the ordinates pp^1, qq^1

then $v^2T^2 = Ac^2 - Ap^2 = pp^1^2$.

$\therefore vT = pp^1$.

Let t be the element of time in which the particle travels the infinitesimal arc PQ.

Then $PQ = pq = vt$ ultimately.

$\therefore pq : pp^1 = t : T$.

But $p^1q^1 : pq = Ac : pp^1$ ultimately.

$\therefore pq : pp^1 = p^1q^1 : Ac = t : T$.

$\therefore \frac{p^1q^1}{t} = \frac{Ac}{T}$.

i.e., a point moving along the arc of the circle ca with the uniform speed $\frac{Ac}{T}$ will have the point moving from c to A at the foot of its ordinate.

i.e., the time from C to A is the time from c to A or the time taken to cover the arc ca of the circle with vel. $\frac{Ac}{T}$ or

$\therefore$ the time from C to A is $\frac{1}{2}\pi Ac \times \frac{T}{Ac}$
 $= \frac{1}{2}\pi T = \frac{\pi}{2} \sqrt{\frac{2d}{g}}$ where $d = AB$.

Now suppose the particle to slide down the smooth chord AC of the cycloid. The time will be the same as the time of falling a vertical diameter of a circle whose lowest point is A.

The diameter of that circle = $AC \sec \theta$ (where $\theta = \angle CAB$) = $AB \sec \theta$

$$= AB(1 + \tan^2 \theta) = d \left(1 + \frac{BC^2}{d^2} \right)$$

$$= d \left(1 + \frac{1}{4} \frac{\pi^2 d^2}{d^2} \right) = d \left(1 + \frac{\pi^2}{4} \right)$$

[$BC = \frac{1}{2}$ Circ of generating circle)]

$$\text{The time} = \sqrt{\frac{2d \left(1 + \frac{\pi^2}{4} \right)}{g}}$$

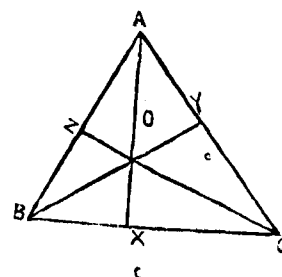
$$= \frac{\pi}{2} \sqrt{\frac{2d \left(\frac{4}{\pi^2} + 1 \right)}{g}} = \frac{\pi}{2} \sqrt{\frac{2d}{g} + \frac{8d}{\pi^2 g}}$$

$\therefore$ The time down the chord is plainly greater than the time down the cycloid.

12. [M. B.] ABC is a triangle and O is a point. AO, BO, CO are joined and produced if necessary to meet the opposite sides in X, Y, and Z. If OX, OY, and OZ are equal to one another, show that the perpendiculars to the sides BC, CA, and AB at X, Y, and Z meet in a point. Shew also that

$$\frac{1}{AX} + \frac{1}{BY} + \frac{1}{CZ} = \frac{1}{OX}$$

Solutions by I. B. KRISHNAMACHARI, M.A.; II. P. S. SUNDARAM IYER, B.A., L.T., P. V. KRISHNAIAH, B.A., V. GURUSWAMI SASTRI, and K. K. RANGANATHA IYER.



I. As OX, OY, OZ are all equal, it can be easily proved that

$$(BX^2 - CX^2) + (CY^2 - AY^2) + (AZ^2 - BZ^2) = 0,$$

showing that the perpendiculars to BC, CA, AB at X, Y, Z meet in a point.

$$\text{II. } \frac{OX}{AX} = \frac{\Delta BOX}{\Delta BAX} = \frac{\Delta COX}{\Delta CAX} \\ = \frac{\Delta BOX + \Delta COX}{\Delta BAX + \Delta CAX} = \frac{\Delta BOC}{\Delta BAC}.$$

$$\text{Similarly } \frac{OY}{BY} = \frac{\Delta AOC}{\Delta ABC}, \text{ and } \frac{OZ}{CZ} = \frac{\Delta AOB}{\Delta ABC}$$

$$\therefore \frac{OX}{AX} + \frac{OY}{BY} + \frac{OZ}{CZ} = 1$$

$$\therefore \text{ since } OX=OY=OZ, \frac{1}{AX} + \frac{1}{BY} + \frac{1}{CZ} = \frac{1}{OX}.$$

13. [M. KANNAN, B.A., L.T.] If a series of circles be described touching a given circle and a fixed diameter of it, shew that

(i) the polars of the centre of the given circle with respect to the series of circles envelope one of two fixed circles;

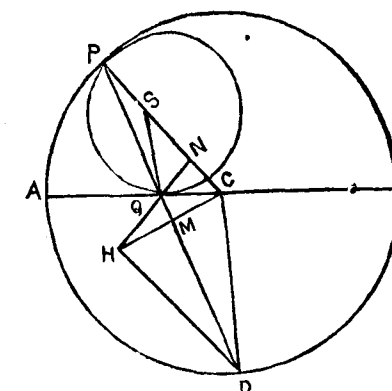
(ii) the polars with respect to the series of circles of an extremity of the fixed diameter pass through one of two fixed points.

Solution by I. M. BHIMASENA RAO, P. S. SUNDARAM IYER, B.A., L.T., and K. K. RANGANATHA IYER.

II. B. KRISHNAMACHARI, M.A.

I. Let C be the centre and AB the fixed diameter. Let S be the centre of the variable circle touching the given circle in P and the line AB in Q. Joining PQ to meet the circle in D, join CD and SQ. Because the triangles SPQ and CPD are isosceles, the angles SPQ, SQP, and CDP are equal $\therefore$ SQ is parallel to CD

$\therefore$ the angle QCD being equal to the angle SQC is a right angle.



(i) Drop CM perpendicular to PD bisecting PD in M. Produce CM to H making MH equal to CM. Join DH and produce HQ to meet CP in N.

Since $CM=MH$ and DQ is at right angles to CH at M, the triangles CQH and DHC are isosceles. $\therefore$ The angle QHD = QCD which is a right angle (proved) $\therefore$ QHD is a right angle. Again because PD and CH bisect each other, DH is parallel to CP. $\therefore$ The line HQ being perpendicular to DH is also perpendicular to CP. $\therefore$ The polar of C is HQ, and since DH which is equal to CD is at right angles to QH, the polar of C, it is evident that the polar envelopes a fixed circle whose centre is D and radius equal to that of the given circle.

The other fixed circle is got by considering a circle described in the lower half of the given circle.

(ii) This is a particular case of the theorem: "If a variable circle touches two given intersecting circles, the polar of a point of intersection with respect to the variable circle passes through one of two fixed points."

Proof. If a variable circle touches two given circles it is orthogonal to one of the two circles which invert one of the given circles into the other. The two circles of inversion are co-axial with the given circles and hence pass through the points of intersection of the given circles. Therefore the polar of a point of intersection of the given circles with respect to the variable circle passes through the other end of the diameter, of the corresponding circle of inversion, which passes through the point of intersection.

II. If the fixed circle be $x^2 + y^2 = a^2$ and the fixed diameter the axis of x , the circles touching the fixed circle and the fixed diameter are

$$x^2 + y^2 + 2gx \pm \frac{a^2 - g^2}{a} y + g^2 = 0 \text{ where}$$

g is arbitrary.

The polar of the centre of the given circle, i.e., the origin with respect to this series of circles is $gx \pm \frac{a^2 - g^2}{2a} y + g^2 = 0$.

This equation can be written in the form

$$g^2 \left(1 \mp \frac{y}{2a} \right) + gx \pm \frac{1}{2} ay = 0.$$

Its envelopes are therefore the loci given by the equation $x^2 = \pm 2ay \left(1 \mp \frac{y}{2a} \right)$

$$= \pm 2ay - y^2$$

i.e., $x^2 + y^2 = \pm 2ay$.

Thus the polars envelope one of the two fixed circles $x^2 + y^2 = \pm 2ay$.

The polar of an extremity of the fixed diameter $(a, 0)$ with respect to the series of circles is

$$ax + g(x + a) \pm \frac{a^2 - g^2}{2a} y + g^2 = 0.$$

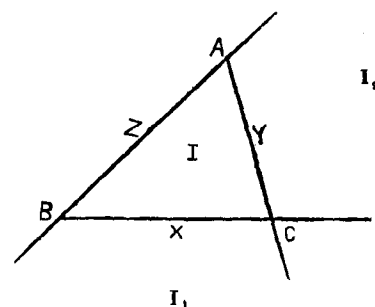
Writing this in the form,

$$g^2 \left(1 \mp \frac{y}{2a} \right) + g(x + a) + \left(ax \pm \frac{a}{2} y \right) = 0,$$

it is easily seen that whatever be the value of g it passes through either of the two fixed points whose co-ordinates are given by $x = -a$, $y = \pm 2a$.

14. [M. KANNAN, B.A., L.T.] Shew that each of the four radical centres of the inscribed and escribed circles of a triangle taken three and three is the ortho centre of the triangle formed by the other three.

Solutions by K. K. RANGANATHA IYER, P. S. SUNDEAM IYER, B.A., L.T., and M. BHIMASENA RAO.



X, Y, Z are the middle points of the sides and I_1, I_2 the centres of the excircles touching BC, and CA.

The circle whose centre is I_1 will for the sake of brevity be denoted as $\odot I_1$. With the usual notation, the tangent from Z to $\odot I_1 = s - AZ = \frac{1}{2}(a + b)$

= the tangent from Z to $\odot I_2$.

$\therefore$ Z is on the radical axis of the $\odot$ s I_1 and I_2 .

Also the radical axis is perpendicular to I_1, I_2 .

$\therefore$ The radical axis is parallel to IC since IC is perpendicular to I_1, I_2 .

But the bisector of $\angle C$ is parallel to the bisector of the angle XZY, for XCYZ is a parallelogram.

$\therefore$ The bisector of the angle XZY is the radical axis of the $\odot$ s I_1, I_2 .

Similarly the six radical axes of the four circles are the six bisectors of the angles of the triangle XYZ.

$\therefore$ the 4 radical centres are the incentre and the three excentres of the triangle XYZ.

Hence as the incentre and the excentres of a triangle are each the orthocentre of the triangle formed by the other three, the proposition to be proved follows at once.

QUESTIONS FOR SOLUTION.

20. [B. KRISHNAMACHARI, M.A.] Describe a triangle equal in area to a polygon of n sides.

21. [KELA DEVA RAO, B.A., L.T.] Show that $\Sigma y^2 z^2 (yz + zx - xy) (yz - zx + xy)$

$$+ (\Sigma yz) (zx + xy - yz) (xy + yz - zx)$$

$$\times (yz + zx - xy) = 2x^2 y^2 z^2 (yz + zx + xy).$$

22. [KELA DEVA RAO, B.A., L.T.] Find the factors of $\Sigma a^2(b - c)(b + c - a)^2$.

23. [M. BHIMASENA RAO.] Generalisation of Question 13 (i).

If a variable circle touches two fixed circles, the polar of the centre of either of the fixed circles with respect to the variable circle envelopes one of two fixed circles.

24. [M. BHIMASENA RAO.] Describe a triangle having given the base, the vertical angle and a point through which the radical axis of the circumcircle and the nine-points circle of the triangle passes.

25. [M. BHIMASENA RAO.] From a point P, perpendiculars PX, PY and PZ are drawn to the sides BC, CA and AB of a given triangle ABC. If AX, BY and CZ meet in a point Q, show by geometry that

(i) the line PQ passes through the circum-centre of the triangle XYZ;

(ii) the line PQ is perpendicular to the axis of perspective of the triangles ABC and XYZ;

(iii) If P varies, the line PQ passes through a fixed point.

THE ART OF TRANSLATION.*

MR. CHAIRMAN AND GENTLEMEN:

As I have an enlightened audience before me, I consider it unnecessary to dwell at any length upon the importance of Translation in the Curricula of Studies in the Educational Institutions of India. As our students begin the study of their vernaculars first, and then pass on to the study of Sanskrit or English, the subject of Translation naturally occupies, and cannot but occupy, a prominent position in the schools of India. In collegiate education also, it deserves to occupy a prominent position, as it does in the West; but as our Professors in Colleges are generally men who have no intimate knowledge of Sanskrit and the Vernaculars, it is being left to the students themselves as a home study without any serious and honest attempt at guidance. India is now passing through a transitional stage; and for us to prove our fitness to exist as an old cultured nation in the world, it is our duty to bring out faithful translations of our priceless literary treasures. The East and the West have met, and there is now an unrestricted interchange of ideas. European scholars have, no doubt, done a great deal to bring to the notice of the educated world some of the grand literary monuments of India; but the European translations, it must be admitted, have not been an unqualified success, owing to difficulties of various kinds which can hardly be surmounted by the average European

* A Lecture delivered by Mr. R. Raghunatha Rao, B.A., Head-master, High School, Chitaldrug, to a large and cultured audience on the 9th ultimo in connection with the Mysore Educational Exhibition.

intellect, moving as it does in a rut of its own. It behoves us therefore to bestir ourselves, and begin the study of translation with earnestness as a Fine Art, which, indeed, it is. Western ideals also have to be presented to our countrymen in the several vernaculars of our country for purposes of comparison; and from whichever standpoint we view the question, educational, literary, scientific, or philosophical, we find that we have to pay serious attention to this important subject.

If the dictionaries of the English language are to be taken as an index of the advance made by the English-speaking peoples, one is constrained to infer that they have not as yet made a serious study of translation as a Fine Art. There is not even a tolerably good definition of translation to be found in any of the dictionaries. I have searched for one even in the Century Dictionary and there is none there. So far as I know, no writer of any note has written on it. In our School and College Books, there is not even a paragraph devoted to translation, and yet the Madras and other Universities have been setting and valuing translation papers for the last half a century!

To start an intelligent discussion on the subject, and to sketch out the lines on which the existing chaotic state of things may be at least partially remedied, I have come forward to deliver this lecture. The subject is a difficult one, and within the time at my disposal I can submit for your indulgent consideration only a few connected thoughts upon it.

I. MEANINGS OF THE WORD TRANSLATION.

Let us examine the different meanings of the word to ascertain the several ideas which it has been made to connote. The English word translation is the noun form of the verb "translate," which is connected with the Latin *translatum*, the past participle of *transfere* = to transfer. The essential or basic idea is transference. One meaning is the removal or transference of a physical object, as in 2 *Samuel*, iii. 10—

"In the Chapel of St. Catherine of Sienna they show the head—the rest of the body being translated to Rome." Another meaning is removal or transference of a man from one office or charge to another; as in—

"Fisher, Bishop of Rochester, when the King would have translated him from that bishopric to a better, he refused, saying, He would not forsake his poor little old wife with whom he had so long lived." (Camden: *Remains*). A third meaning is transference to heaven or to another world; as in *Hebrews*, xi. 5—"By faith was Enoch translated, that he should not see death." A fourth meaning is alteration or change, as in *Hebrews*, vii. 12—"Now, no doubt, if the priesthood be translated, then, of necessity, must the law be translated also." A fifth meaning is transformation or change of appearance as in Shakespeare's *Midsummer Night's Dream*, III. 1—(Re-enter Puck and Bottom with an ass's head.)

Quince—"Bless thee, Bottom; bless thee; thou art translated."

A sixth meaning is change of words to express the sense of a passage in another language; as in—(a) "It had been in some of the former sessions determined that there should be chosen six divines for the translation of the Bible, three for the Old Testament, and three for the New with the Apocrypha;" and also in—(b) "That speech he actually prepared and had it translated."—(Macaulay).

A seventh meaning is explanation or interpretation; as in *Hamlet*, IV. 1.—

"There's matter in these sighs;

These profound heaves you must translate;
'tis fit

We understand them."

A eighth meaning is version, that which is produced by rendering in another language; as in—

"It is by means of French translations and

abstracts that they are generally known in Europe."—(Goldsmith).

Our word has also some technical meanings; but into the consideration of these, we need not enter. The eight meanings noted above are enough for our purpose. We see that our word includes the ideas of transformation and explanation.

II. A DEFINITION OF TRANSLATION.

The word, as it is now commonly understood in Educational Institutions, means expressing the sense of a passage or extract in another language. As a general description of what translation is, it is good enough; but as a definition of the term, it is vague and defective. Nothing whatever is said about the manner in which the sense of the original is to be expressed in the translation. How shall we supply the deficiency? Let us take one or two examples. "The child is father to the man," it is said. How is this to be translated? A mere mechanical rendering of the words is evidently useless. There is a Figure of Language in the sentence, *viz.*, Epigram. There is an apparent contradiction in terms; one who is young cannot be a father to one who is older than himself. But when you probe deeper for the meaning or the real sense, you find that the sentence states an important truth, *viz.*, the qualities found in early childhood develop and acquire strength as age increases, and so childhood may be described as the parent of manhood. Shall we translate this paraphrase? It certainly expresses the intended sense, but it is not and cannot be a translation. The original sentence creates in us a feeling of agreeable surprise; and the translation, if at all worth anything, should affect us in the same manner. There is, again, the figure of Irony or Sarcasm. The words in an Irony, taken literally, would imply commendation, but it is not the sense of the sentence. If you change the form of the sentence, and express the intended sense, the figure disappears and the beauty or force is lost.

"And Brutus is an honourable man" occurs a number of times in the speech of Antony over the dead body of Cæsar; and if in each case the sentence is paraphrased so as to express the intended sense, and then translated, the beauty of the speech disappears. Such a translation is worthless, though it conveys clearly the intended sense. Take also another example. Alexander Pope, it is said, had translated Homer's *Iliad*, when a friend of his came to see him. He gave him his translation, and requested him to read through it, and favour him with his opinion on it. Now, Homer is the greatest poet of Greece, and the language in which he has written his *Iliad* is Greek, the most exquisite and eloquent of all the European languages. A second-rate poet like Pope was not likely to do justice to Homer. It is well-known that for a translation to be perfect the translator should be as great a genius as the original author himself. The friend read through Pope's translation and was not satisfied with it; but he did not like to condemn it himself in clear and unmistakable terms. He was sure that the condemnation would of itself come later on. And it did come. Macaulay says:—"Neither of the rivals (Pope and Tickell) can be said to have translated the *Iliad*, unless, indeed, the word translation be used in the sense which it bears in the *Midsummer Night's Dream*." We have seen what that sense is, namely a transformation which hides the original altogether. Bottom, who has the look of a human being, acquires, after the translation, the look of an ass. Now, Pope's friend wrote on the manuscript:—"Oh! Homer! thou art translated indeed!" and returned it. What is the meaning of "Oh, Homer, thou art translated indeed"? How is it to be translated? The critic was intentionally evasive, and did not want to express his meaning unmistakably. The same sentence, read in a tone of admiration, expresses high commendation. Such sentences also come up for translation, and in such cases we also have to use

a word, which may be interpreted or explained in two ways. We thus see that the Dictionary definition is practically valueless. How shall we modify it? The Tamil, Telugu, and Kannada languages have each a large mass of literature, and many master-pieces in these languages are translations from Sanskrit. These master-pieces serve as our guide. Kādambari in Sanskrit is a classical work, and all critics have praised it. Nāgavarma has translated it into Kannada. His translation raises in us the very feelings which the Sanskrit original does. Having this and other models before me, I venture to frame the following definition:—

“Translation is an art by which the ideas of an author are transferred clearly and vividly from one language into another so as to affect the mind of the reader in the way in which the original itself affects him.”

This definition gives prominence to four points:—

(1) What are transferred or translated are the thoughts or ideas of the author, not merely his words. It emphasizes the fact that translation is not a mere substitution of foreign equivalent words or synonyms.

(2) The ideas, after they are definitely ascertained, should be expressed so as to convey clearly the intended meaning. An explanation or expansion may become necessary.

(3) The manner of the transfer should be as far as practicable like that of the original; that is, the translator should express the given ideas in the required language in the manner in which the original author has expressed them. To do this properly, the style of the original should be followed scrupulously.

(4) The effect on the mind of the reader should be the same or at least similar; that is, the translation should affect the mind of the reader as the original itself does. To secure this effect the rhetorical devices of the original,

if any, should be carefully preserved in the translation.

We have stated our definition without bringing in the popular phrases, “the force of the original,” “spirit of the original,” &c., as often we have sentences in which there is neither force nor spirit. A definition of translation should include all the possible cases coming under that heading.

III. TRANSLATION AS A FINE ART.

We have endeavoured to frame a definition of translation. Now let us proceed to consider how the art is to be learnt. Translation is not an art merely: it is a Fine Art also, which I hope to be able to prove to you. Art, as we know, is the Latin *ars*, accusative of *ars* = art, from *ar* = to fit, to join. Subjectively art denotes the skill or tact in planning and in carrying out a project. Wherever there is great skill, there is art. In olden times the word “Art” meant Science also. There was a Trivium, which included the Sciences of Grammar, Rhetoric, and Logic; and a Quadrivium which included Arithmetic, Music, Geometry, and Astronomy. A relic of this old meaning we have still in our University Degrees—B.A. and M.A. Now-a-days, the several arts are arranged in two groups—the Mechanical and the Liberal. The Mechanical Arts are those which may be successfully followed by one who does not possess genius, but has acquired the facility which long practice imparts. Such are the arts of the carpenter, the goldsmith, the watch-maker, &c. The Liberal Arts, which are also known as the Polite or the Fine Arts, are those in which the mind or imagination is chiefly concerned. Music, Poetry, Painting, Sculpture, Architecture are included in this group. Since Poetry is considered to be a Fine Art, I do not see how the same name can be denied to Translation, when it translates the poetry of one language into that of another. It may be said that a translator adopts the ideas of another, and the originality he evinces lies merely in clothing them with suitable words. Granted:

but has not genius to work before ideas can be properly expressed in words? Has not the translator to realise the thoughts, and feel the emotions of the original poet? Is not the measure of the excellence of his translation also the measure of the extent to which he has himself realised the thoughts and emotions of the original poet? Genius is necessary, when a Drama or an Epic Poem is to be translated. Take now the case of a Portrait-painter. Does he invent anything? He has his model before him; he sees what the characteristic features and lineaments of his model are, and transfers them to the canvas with his brush, and makes a living picture of it. Wherein lies his genius? Not in daubing his paint, but in giving to his picture a living look. Does not a translator do all that a painter does? If so, how can you deny the epithet of Artist to him? Can Translation, in its higher sense, ever be a Mechanical Art? Is it possible to imagine a future inventor who can invent a mechanical contrivance by which any skilled mechanic can produce a version of Kālidāsa's Sākuntala in any required language? Why has Sir W. Jones, in spite of his great ability, failed to reproduce the original Sākuntala in the English language? Evidently, because he lacks the genius of Kālidāsa, and has failed to realise Kālidāsa's poetical “conceits” fully and vividly. “That translation,” says Sir M. M. Williams, “was unfortunately made from corrupt manuscripts, in which the bold phraseology of Kālidāsa has been occasionally weakened, his delicate expressions of refined love clothed in an unbecoming dress, and his ideas grand in their simplicity, diluted by repetition or amplification.” Monier Williams's translation of the same drama is, indeed, far better. He has done a real service to India by translating it into prose and verse. That he has taken great pains to produce a decent translation is abundantly clear. In the preface to the Eighth Edition of his Translation, he writes:—“Three years ago, however, I heard that Sir John Lubbock had thought ‘Sākuntala’

worthy of a place among the hundred best books of the world, and had adopted my version of the original. I therefore undertook to go through every line and once again compare the translation with the Sanskrit, in the hope that I might be able to give a few finishing touches to a performance which, although it had been before the public for about forty years, was certainly not perfect. The act of revision was a labour of love, and I can honestly say that I did my best to make my representation of Kālidāsa's immortal work as true and trustworthy as possible.” Thus we see that Sir M. M. Williams thinks very highly of his own translation. Hindu scholars, however, cannot say that his version is “as true and trustworthy as possible.” We have convincing proofs that he has erred egregiously in several places. An art in which so distinguished a personage as Sir M. Monier Williams has failed, is surely one which is more than a mere art. When you call painting a fine art, you have evidently in view its highest and most noble specimens. Deal similarly with the Art of Translation, and have in view its highest and most noble specimens. In all the noblest specimens of translation, you do discern the work of genius, and genius is necessary to excel in Translation. The inclusion of genius in the qualifications of a first-rate translator makes translation a Fine Art. Thus Translation is not only an art, but a Fine Art also; and as in the other Fine Arts, pains should be taken to learn and practise it. All the Fine Arts have for their basis a science or sciences. What are the sciences upon which this Fine Art is based? To begin with, Grammar and Rhetoric. Without a knowledge of the principles of Grammar and Rhetoric no one can shine as a translator. Logic and Psychology form the basis of Grammar and Rhetoric, and the principles of these sciences also a translator ought to know. When classical works are to be translated, this high general equipment is necessary. No writer is justified in aspiring to influence others unless he him-

self feels what he says, and so a translator needs a fine sensibility. My hearers may fancy that I am making too much of my subject, but I beg to assure them it is not so.

IV. METHOD.

We may now pass on to the method which a translator has to pursue. His work being the transference of the thoughts or ideas of a writer from one language into another in the manner indicated in the original, the first thing he has to do is, evidently, to read the passage carefully a number of times, till he feels sure that he has grasped its true and full meaning. Sometimes this proves difficult, as the construction of a sentence may be a complicated one, in which case he has to analyse the sentence carefully to ascertain the exact relations of its several parts. Words are often used in curious or special senses, and these he has to unravel carefully with the help of the context and of dictionaries.

The second thing is to note the words which express the leading ideas, and to hunt out their nearest, if not the exact, equivalents in the language in which the translation is to be written. This work also is beset with difficulties, as the bilingual or diglot Dictionaries are both defective and faulty. The best and most feasible thing under the circumstances should be done. In exceptional cases, the original word itself may be retained.

The third thing is to note the general style of the passage—grave or playful; simple or ornate; descriptive, narrative, or conversational, as the case may be—and to reproduce the same in the translation.

The fourth thing is to note carefully the train of thought and the figures of Rhetoric, if any, in the original passage, and to retain them in the translation as far as practicable.

The fifth and the last thing a translator has to do is to make a "Scientific" use of the imagination, and transfer himself to the environ-

ment of the original author, and strenuously endeavour to think *his* thoughts and feel *his* emotions. The translator must mentally visualize the effect which the original writer has intended to produce by his words, and having so visualized it, he should endeavour to combine his own words into sentences so as to produce the same effect.

V. THE NECESSARY CAUTIONS.

A short description of the method which the translator has to pursue is, however, not enough to guide him in his work. Certain cautions also are necessary; and to explain these, we have to know how the two languages with which he is dealing, stand towards each other. Taking any two languages and examining them, we find that there is between them a relation or no relation. If there is a relation, it must be either close or distant. Two languages are said to be closely-related to each other only when their vocabularies, grammar, and idioms are common to a great extent. Tamil and Malayalam, Kannada and Telugu, are, for instance, closely related languages. In the case of two distantly related languages, though there is a small common substratum in their vocabularies, grammar, and idiom, the actual differences are great and glaring. English and Sanskrit may be taken as examples. Though both are Aryan languages, their grammars and idioms greatly disagree. When there is no common grammatical element at all between two languages, they are said to be non-related. English and Kannada may be said to be non-related languages. Kannada may borrow from English any number of words, and yet remain unrelated. The relationship that we care for from the standpoint of translation, is the inner grammatical one, not the outer one of mere vocabulary. Sometimes it becomes difficult to determine the exact relationship between two languages, as for instance, Kannada and Sanskrit. The Kannada civilization is almost entirely Sanskritic. The Kannada Gram-

mar and the Kannada Rhetoric are wholly based upon Sanskrit models. Sanskrit has been an extremely kind and considerate Foster-mother to the orphan Kannada, and yet the relationship between the two languages is, in our opinion, not a close one. Hindu philologists have called Kannada a daughter of Sanskrit. Though the relationship is not a close one, yet it is not distant. All that can be safely stated is that Kannada is the adopted daughter of Sanskrit.

In this connection we may also consider the epithets commonly applied to translation. They are three in number—literal, close, and free. Difficult it is to determine definitely the meanings of these words as applied to translation at present. Literal is derived from a Latin word which means a letter, and its usual meaning is a word. A "literal translation" is a word-for-word translation, and this epithet is applicable only in the case of two more or less closely-related languages. The modern literary languages of Europe are all more or less closely-related to the classical languages—Greek and Latin. Greece, the earliest civilized country of Europe, civilized and educated Rome; and Rome in her turn civilized and educated the rest of Europe. European School books were first based on classical models; and the classical languages were and are taught in European Schools much in the manner in which Sanskrit was and is taught in India, i.e., by the hackneyed method of construing. The Vernaculars of Europe being closely related to the classical languages, Greek and Latin, the words that became familiar to European Educationists were, from the standpoint of translation, "render" and "construe." When the European Races went and conquered parts of Asia, they took with them their racial pride and prejudices. They came in contact with languages unrelated to their own, and these they tried to master. Mastering a foreign or unrelated language is extremely difficult for a European, and the singular fact that no European

has as yet succeeded in writing a decent original book or article in any of the vernaculars of India is a proof of his inability to master them. Gentlemen like Mr. Kitell and Mr. Rice have devoted the best portion of their lives to the study of the Kannada language, and yet neither of them has produced any original work in it. Many Europeans imagine that the test of translation applicable in the case of closely-related languages is also applicable in the case of non-related ones. The tests must be different in details, and cannot be otherwise. A literal translation is possible only in the case of languages whose grammars and idioms more or less agree. The epithet "close," from the standpoint of translation, has, and must have, different meanings as applied to different groups of languages. In the group of closely-related languages, a "close" translation is one in which not only the orderly march of ideas is scrupulously preserved, but also the order of words and phrases in which these ideas are clothed. In the case of distantly-related and non-related languages, however, it becomes impossible, from the very nature of the case, to follow the order of words. The word "free" is commonly used in a bad sense; and this is greatly owing to the absence of any scientific definition of the word translation in the Dictionaries of the English language. I challenge scholars to produce in English a "literal" or even a "close" translation of a Sanskrit or vernacular *shloka* in which long compounds abound. To follow the orderly march of ideas is certainly possible, but to follow the order of words and phrases is not. My contention is that no sort of stigma should be attached to the word "free." When the translation conveys all the ideas of the original, affecting the mind of the reader in the manner of the original itself, it must be accepted as faithful, irrespective of the liberty taken with the words and phrases. The epithets *literal*, *close*, and *free* should, I think, have reference solely to the transference of equivalent words and phrases, and not to the

sense, which should in every case be carefully transferred into the translation. I think the term *literal*, is, speaking generally, best applied in the case of closely-related languages, *close* in that of distantly-related languages, and *free* in that of non-related ones.

As in Paraphrase, so in Translation, there are different modes. Some are simple or non-explanatory; some semi-explanatory; some others explanatory and even expanded. There are instances of all these in Sir M. M. Williams's translation of *Sākuntala*. In each individual case, we have to read carefully and determine which mode will affect the mind of the reader as the original itself does. The word translation includes, as already pointed out, the idea of interpretation or explanation; and we aver it is the bounden duty of the translator to transfer the writer's ideas into the required language as exactly and clearly as possible.

VI. RULES FOR GUIDANCE.

Now we proceed to formulate some rules for the guidance of students. These, from the nature of the case, can only be very general.

(1) Before you begin to translate, read the whole passage, and turn it over in the mind. Keep in view its drift and general purport, and catch the *thought* in preference to the *language*. Remember that you have to convey the *collective* meaning of the passage and not the bare meanings of its words.

(2) Keep in mind the general style of the passage, and bring out its character in your translation as far as you can. Be careful that the result shall be a perfectly readable piece, intelligible to those who are ignorant of the original.

(3) Never ignore figures of Rhetoric, as such a procedure makes the translation insipid and valueless. A careful *close* translation is often necessary to reproduce the figure. In the case of "*Sabda Alankāra*, the main words of the

original containing the figure, may be used, and foot-notes added to explain the meanings. Sanskrit slokas in which the same letters occur in both the first half and the second half are not translatable.

(4) When you translate from one sister language into another, use words which are cognate with those of the original passage, and retain as far as possible the original cast of the sentences.

(5) When you translate a passage into a distantly-related or non-related language, select carefully such words and phrases as adequately express the original author's meaning or shade of meaning, and combine them into sentences, attending to the necessary changes of grammatical construction and idiom.

(6) When you translate from the English language into any South Indian vernacular, break up long and involved sentences into shorter ones; and combine disconnected ones by the use of suitable connecting links, paying attention to the logical sequence of ideas.

(7) Note carefully the grammatical peculiarities and idioms of the language you are writing in, and take care never to violate them.

This determination of the peculiarities of the languages dealt with, requires not only sound knowledge but also extensive reading. The literary languages of India are divided into two groups—the Gaudian and the Dravidian. In the Gaudian group are included the languages of Northern India and the Mahratti. The Dravidian group includes Tamil, Telugu, Kannada, and Malayalam, which are all sister languages, governed to a large extent by the same grammatical principles.

English, Sanskrit, Tamil, Telugu, Kannada, and Malayalam are the principal languages with which the Hindus of Southern India have to deal. Each of these has its own peculiarities, some of which we may note here for purposes of illustration:—

(a) English is an analytical language with Prepositions and Interjections as separate parts of speech. It is remarkably poor in compound words, and the construction of its sentences is often complicated, which necessitates the use of marks of punctuation. Punctuate your English translation carefully.

(b) Sanskrit, as its very name implies, is a carefully arranged literary language with a remarkable genius for compound words. The use of the passive voice is frequent in it, and its adjectives are inflected. When you translate from Sanskrit into Kannada or Telugu, break up the long compounds into shorter ones, and use the passive voice sparingly.

(c) Tamil is very deficient in its alphabet, and its phonetic laws are peculiar. It has no genius for compound words, and Sanskrit words cannot be easily introduced into its sentences.

(d) Telugu is the most melodious of the Dravidian languages, and it is the only Dravidian language which still retains the use of the *Ardha Anusvāra*. It makes liberal use of Sanskrit words and compounds. Several forms of modern Kannada are to be historically traced to the influence of Telugu.

(e) Kannada occupies an intermediate position between Tamil and Telugu; and like Telugu makes liberal use of Sanskrit words and compounds. In Kannada translations, use short Sanskrit compounds frequently, as these contribute to heighten the effect.

(f) Neither Tamil, Telugu, nor Kannada has any Relative Pronouns, and the Passive Voice in these languages is very rarely used, being merely an importation from Sanskrit. The adjectives of these languages do not admit of degrees of comparison.

VII. AN EXAMPLE TO ILLUSTRATE THE RULES.

We shall take an example to show the application of these rules. The following serves our purpose:—

"Sympathy and incompatibility—these are the two great powers that decide for us whether intercourse is to be possible or not; but the causes of them are dark mysteries that lie undiscovered far down in the abysmal deeps of personality."

Apply Rule 1. The first reading almost bewilders you, and you hardly know what the sentence is about. The second reading is likely to rivet your attention on the word "incompatibility." The association of ideas leads you to think of incompatibility of temper, which is a sufficient cause for divorce in America. Then what is sympathy? A third reading will reveal the fact that sympathy is having the same feeling as another. Then the fact dawns on you that "intercourse" is the one between man and woman. The general purport is that for a man and a woman to become husband and wife, and have amicable intercourse, sympathy or mutual affection or passion is necessary. If there be incompatibility, no amicable intercourse is possible. The latter half of the sentence says that the causes of this sympathy or incompatibility are dark mysteries. Then the writer thinks of the efforts made by generations of investigators for the solution of this problem, and in describing their utter failure makes use of a metaphor. Apply Rule 2, and note the terseness of the style and its effect. You should make up your mind to produce the same effect. Rule 3 requires you to reproduce the figure of speech, and to make the translation a close one. When you translate into a distantly related or non-related language like Sanskrit or a Dravidian language (Rule 5), you must think of suitable equivalents for *sympathy*, *incompatibility*, *intercourse*, *abysmal deeps*, and *personality*. This may give you a good deal of trouble, but you must not mind it. In your efforts to get good equivalents, you will discover the unsatisfactory character of the existing dictionaries, but you must not feel discouraged. Say, you want to translate it into

Kannada, Rule 7 and its sub-divisions will put you on your guard. You may write out your Kannada translation, and turn it over in your mind; and lastly judge whether the effect produced on the mind is the effect which the original itself produces. Keep the translation aside for a few days, and then criticise it. Self-criticism is very useful. You will in the course of time strengthen the virtue of self-reliance by this constant practice. I applied the rules which I have formulated, and I was able to bring out the following translation:—

“మనస్సు మనస్సు ఒక్కరువును, ఒక్కరువును—
ఇవెరడేదాంపత్యసుఖద సాధ్యసాధ్యతెయిస్తు నిరం-
యసువ మహాకారణ గళానివె; ఈ మహాకారణ గళ
మూలకారణ గళానివె ఆతెయలశవల్లద మానవప్రకృతి
యెంబ గాఢాంధకారమయవాద అధఃపాతాళద కిశగణ
తళగళల్లెయి గొత్తే ఆగదంతె అడగరువు.”

This Kannada may be easily translated into Telugu.

VIII. A TEST FOR TRANSLATION.

We may now think of devising a suitable test for translation. The test now paraded and enforced is that, if we re-translate the translation into the original language, we must get back the original passage itself or something like it. This test is, I am afraid, employed even by University examiners, who are engaged more in the slaughter of the innocents than in furnishing models of translations for the guidance of students. This test, which is at present very popular, is applicable only in the case of closely-related languages, and not in the case of distantly-related or non-related ones. If we were translating from Kannada into Telugu or *vice versa*, the prevailing test would be applicable. The languages of Europe being more or less closely-related languages, the European educationist thinks of this test and no other. To get back the original passage by re-translating the translation, the vocabularies should be cognate, the grammatical principles and idioms identical or at least similar.

When they are not so, extremely unfair it is to apply a test which is really inapplicable. Take for instance, the following passage:—“What we should aim at is, not to admire the speaker, but to follow him. The ancient historian tells us this constituted the difference between Cicero, the polished speaker, and Demosthenes, the burning orator. After a great speech in Rome, every tongue was loud in the praise of Cicero. But the people who listened to Demosthenes forgot the orator. They went home with hurried stride, lowering brow, clenched fist, muttering in a voice like distant thunder, ‘Let us go and fight Philip.’” The important ideas of this passage are evidently locked up in the following expressions:—‘to admire the speaker,’ ‘to follow him,’ ‘the polished speaker,’ ‘the burning orator,’ ‘great speech,’ ‘forgot the orator,’ ‘hurried stride,’ ‘lowering brow,’ ‘clenched fist,’ ‘a voice like distant thunder.’ Here are ten phrases, and their full meaning and force should be brought out in the translation. If the words are more cared for than the sense, the effect will be bad, and the very object of the translation will be frustrated. Take the two phrases—the polished speaker, and the burning orator. What is the meaning of “polished”? Can any one find out a single word in any of the South Indian languages which will bring out its full force? Similarly with the epithet “burning.” Let us say that this passage is to be translated into Kannada. Construing befits a learner, not an author; it is fit for the class room, not for the wide work-a-day world. If the full meaning and force of the passage is to be brought out, if we are to follow in our translation the manner of the original author, if the translation is to affect the mind of the reader as the original does, the Kannada translation will read somewhat as follows:—

వాస్తవ వచనాను వర్ణనగళగురువుదర్శి నమ్మలక్ష్య
వన్నిడేకు, అవనమ్మయిల్ల. రసాలంకార భూషితగ
ళాదవచనగళమ్మవచిసువుదర్శి నిభణనాగిద్ద సిసిరొవిగూ
బాజ్యల్యమాన గళాదవాక్యరణి గళనైరచుత్తిద్ద డిమాస్తి
సిసిగూడద్ద తారతమ్యవమ్మ పూర్వద చరిత్రకారసెబ్బను

వచింసుత్తానె. రోమంబామహా నగరదర్శి మహా ప్రసంగవ
దాంబునడవాడనెయే సిసిరొవివ వాక్యతుర్యవమ్మ
పడియొందూ నాలగెయ. మోగళుత్తిత్తంతె. డిమాస్తిసిసి
వాగ్గరిగె కివియన్నొడ్డిద్ద జనరాదరో ఆమహవ్యక్తి యన్నా
మరెతు, రోషదిందహల్లన్న కచ్చుత్తా, దూరదర్శి ఘడి
ఘడిసువగుడుగినధ్వనియందదధ్వనియల్లి, “మోగోణ,
ఫిలిప్పంబరానాథమనాడనె యుద్ధమాడోణ” ఎంబ
మోళికాళ్ళుత్తా, ముష్టియమ్మ బిఃహిడిదవరాగి, ముబ్బు
గళన్నిళి సివవరాగి, నాపుగాలన్నిడుత్తా తంతప్పు
మనగళిగె తెరళుత్తిద్దవ రాగుత్తిద్దరంతె.

This translation is both grammatical and idiomatic, and I believe it embodies the ideas of the original. In the place of the original single words “polished” and “burning” we have used explanatory phrases to bring out the full meaning. The effect on the mind of the reader is also similar to that which the original produces on the mind. It brings out to a great extent the spirit of the original. If you translate this back into English by the construing method, you will not get the original words in their order. Will you care more for the shell than for the kernel? Will you on this account condemn the translation as being “free”? Will you adopt in preference to this the translation that you get by the construing method? Here it is:—

నాపు లక్ష్యవిడ బేకాదురు మాతాదువనమ్మ మెచ్చు
పుదర్శిల్ల, అవనమ్మ హింబాలిసువుదర్శి. ఒప్పవిట్ట
సిసిరొవిగూ లురియువడిమాస్తి సిసిగూడదు తారతమ్య
వాగ్గిత్తెందు నమగె పురాతనకాలద చరిత్రకారను
మోళుత్తానె. రోమిన్ల దొడ్డమాతాదమలెసిసిరొవమ్మ
మోగళువుదర్శి ప్రతినాలగెయ్యాశబ్దమాడుత్తిత్త ఆదరె
డిమాస్తిసిసిమ్మ కేళిద్దజనరు వాచాళియమ్మ మరెతు.
అవనరద హెజ్జెయొడనె, కెళిక్కిలియువ ముబ్బినుడనె,
బిఃహిడిద ముష్టియొడనె, దూరదగుడుగినంతిరువధ్వని
యల్లి, ‘నాపుమోగోణమత్తు ఫిలిప్పమ్మకాడోణ’ ఎంబ
గొణగుట్టికొందు అమరు మనెగె మోదరు.

If you translate this back into English by the construing method, bearing in mind the

differences of grammar and idiom, you will get back a passage, very much like the original. According to the prevailing test, more marks should be given to this translation than to the first. I suppose Sir Monier Monier Williams as well as myself will be plucked, if we now appear for an Indian University Examination, as being ignorant of the test which has done yeomen service in Europe until now! But we have to remember that the Kannada country is not Europe; that the Kannada civilization is not European civilization; that the Kannada people are not barbarians upon whom an anglicised Kannada grammar, like the late Vāgvidhāyini, can be hoisted; that Kannada has had an excellent literature for at least 1500 years; that the Kannada language has traditions and ways of its own which we should respect. Thus it becomes plain that the test which is applicable in the case of closely-related languages is not applicable in the case of distantly-related or non-related languages. What test then are we to have? Our definition of translation supplies it. In our definition, besides clearness, three things are emphasized:—

- (1) What are translated are the ideas of the author, not merely his words.
- (2) The manner of the transfer should be like that of the original.
- (3) The effect of the translation on the mind of the reader should be like that of the original.

Changing the phraseology, we state as follows:—

- (1) The matter of the translation should be the matter of the original. Here “matter” stands for the ideas of the author.
- (2) The style or manner of the translation should be the style or manner of the original. Here style or manner refers to the way in which the original author has clothed the ideas surging up in his mind.
- (3) The effect of the translation should be the effect of the original. Here effect stands for the effect on the mind of the reader.

Combining the three propositions stated above, we word our test as follows:—

"The matter, manner, and effect of the translation should be, as far as possible, the matter, manner, and effect of the original."

It may be said that this test ignores the question of words. My reply is that it cannot be helped. When the test is applied to closely-related languages, the re-translation brings back to you the original ideas and sentences; when applied to distantly-related or non-related languages, it brings back to you the ideas, but not the original sentences. The manner and the effect should be the same in all cases.

IX. CONCLUSION.

Gentlemen, I thank you all most heartily for the patient hearing you have so kindly accorded to me. I am not much accustomed to public lecturing, and I have no doubt that there are several blemishes which have escaped my attention. I have tried to place before you what I have been able to learn regarding translation during the past thirty years. In order that you may have only a small load to carry home with you after the exertion of close attention for more than an hour, allow me to sum up my discourse in one short sentence:—

"A translation should not *smell* of translation."

"THE IMPORTANCE AND THE RATIONAL METHOD OF TEACHING GEOGRAPHY.*"

MR. CHAIRMAN AND GENTLEMEN:

I have chosen for the subject of my essay "The Importance and the Rational Method of Teaching Geography," on account of its value it has recently acquired as the educationists have found out that in many schools the teachers have strayed away

* An essay read by Mr. S. K. Ramaswami Aiyangar, B.A., L.T., 2nd Assistant, High School, Madanapalle, at a meeting of the "Madanapalle Teachers' Association" held on the 8th November under the presidency of M.R.Ry. G. Subbarayadu Sastri Garu, B.A., Acting Inspector of Schools, II Circle.

from the desired method of teaching this subject which ended in the ultimate failure of realising its aims. As there was, as it were, a dormant period when this subject was partially neglected, the failures in general knowledge increased; so much so that both the Department of Education and the University had to bestir themselves to remedy this defect. The former, on the advice of the best educationists, laid down and emphasised in their "Hints and Suggestions to Teachers and Managers of Schools" the best method of teaching the subject. The University has arranged a course of lectures in Geography during the ensuing Christmas Vacation to place before the teachers their exact requirements in this subject and the soundest way of handling it. With this introduction, I proceed to the subject:—

The past five years have been steadily witnessing the revival of the better methods of teaching Geography which produce marvellous results in developing the mental faculties of children and in stirring up an earnest enthusiasm that is being displayed both by the teachers and the pupils from the lowest to the highest class of the High School. Greater is this enthusiasm as there is now a deviation from the old beaten track of names and pointing out in the map to one of observation, reflection and inference. The change is warmly welcomed as wide contrasts impress the difference vividly. The students are now greatly freed from the one-sided mental strain where memory was stored with a mass of indigestible facts which they have no interest to remember and which do not in any way benefit them either in the betterment of their mental frame or the satisfaction of their practical needs. This does not imply that there was no good in the old method of teaching Geography; for it anyhow gave us a knowledge of the different places of the earth, the productions, the different geographical phenomena without going into their causes and their emanation from the pupils' minds. But this was the limit of the results arrived at. The knowledge of the climate, productions, etc., of one place did not in any way enable the children to apply their mental gain to infer the climate

and productions of another place of a slightly different nature; they did not correlate the cause and the effect. The present method strives to complement of the old method of teaching the subject.

The aims of the modern method.—It presents according to the natural order of development of the mental faculties. To give a concrete illustration the teacher wants to teach that the earth rotates from west to east; he makes the pupils observe the sun rising east, ascending the horizon and setting down in the west. They are made to notice that the trees, buildings, etc., on the road appear to move in a direction opposite to the actual motion of the train in which they are travelling; the teacher now guides them to infer that the earth moves and that in a direction opposite to the apparent motion of the sun. This simple phenomenon of the earth's motion from west to east is easily elicited from the children's observations even in the lowest classes. Thus proceeding from observation, the new method exercises comparison of several observed phenomena and reflection on them. The child arrives at a judgment and finally he has clear conclusions of whose truth he has a firm conviction based on the first principles. Thus I have pointed out roughly the psychological aspect of this improved method.

Scope of Geography.—Geography is not a narrow subject as may sometimes be understood to be, but it stretches far and wide into the domains of other sciences. It penetrates into the region of natural sciences when it discusses the various phenomena taking place in air, water and the soils. Geography seeking to infuse a knowledge of the different surfaces of the earth, such as plains, heights, etc., seeks to get itself impressed in the mind with the aid of drawing which represents the earth on flat surfaces and enables us to read maps. This rational method always tries to proceed on the "Herbartian Concentric System," the centre being the physical build. The climate of a place is easily deduced from its physical configuration and its position on the surface of the globe. There follow from climate

the nature of the people, the kind of government which their temper allows them to be under and their occupations. From the physical build the children find out the direction of rivers and elicit from the climate, again, the nature of the animal and plant life.

Two methods of teaching Geography.—The analytical method begins with the main surface of the earth and descends in gradual steps to the geography of a particular locality. Here the first step itself, viz., the whole surface of the earth is an unknown to the minds of the children a procedure psychologically faulty in the lower classes but in the higher ones it places before the minds the correlation of the whole to its parts. Therefore, gentlemen, the synthetic method is preferred to the analytical on account of its several merits. The teacher begins with the observation of the school compound and its neighbourhood and steadily takes the child to observe larger pieces of land where his imagination helps him to compare the various scenes hitherto witnessed by him. This travels on the smooth road of psychological researches. When necessity arises the essential features of the two methods may be combined at the discretion of the teacher.

A gradation of studies.—The beginning is made in the Kindergarten where preliminary geographical notions are taught in connection with object-lessons, clay-modelling and the drawing of landscapes, etc. In the later stage the impressions of the early childhood are recalled and a knowledge of the cardinal points, maps and the representation of solids on maps, is imparted: then an intelligible instruction given with the aid of text-books enlarges the mental horizon of the pupils. Thereafter follow some general lessons demanding a greater exercise of the mental powers such as tides, seasons, eclipses, etc.

Appliances needed.—The teaching of this important subject of the school curriculum requires many cheap appliances and some a little costly ones.

(1) A *Museum* containing samples of the objects of the mineral, vegetable and animal kingdoms.

(2) *Pictures of geographical scenes.*—The pictures ordinarily available do not place the main points in prominence; hence the teacher is to throw the beacon light on these pictures by supplying their omissions. The illustrated weekly papers form the best source for teaching this subject.

(3) *Magic lantern slides of geographical scenes.* The greater portion of astronomy can be taught intelligibly to the grown-up students in a fortnight.

(4) *The powerful telescopes* contribute an invaluable help in revealing to us a knowledge of the heavenly expanse.

(5) & (6) The globe and orrery enable the children in comprehending the difficult physical points such as latitude, longitude, eclipses, seasons, etc.

(7) Plain topographical maps fix in our minds the relative position of the different places.

(8) Outline maps are of great use in a developing lesson.

(9) To give the bird's-eye view of a place, the teacher is in sore need of relief maps.

(10) *Geographical charts* do nevertheless contribute a great side-light for the easy comprehension of the short passages from one country to another.

(11) Maps and graphs of products, rainfall and temperature are of immense help which if intelligently taught stir up the constructive activity of children who glowing with enthusiasm construct in their turn maps with the data which they learn by reading the geography of any country.

(12) *Children's out door excursions* with the teacher for their guidance.

The teacher should bear in mind that the maxim of all sciences that nothing really happens without any precedent cause applies equally well in geography. The climate of any country is caused by its position as regards the equator, the adjacency of the sea, its attitude, the action of rain bearing or dry winds blowing upon it. Round the axle of climate should turn the wheels of vegetation and the animal life. The industries follow from the vegetation and the

position of a country and the situation of some places in favourable sites for commerce give rise to towns whose formation is also facilitated by the easy means of communication to and from them.

I shall try, gentlemen, in the following pages to describe briefly the means of imparting some elementary geographical notions.

To make use of drawing in the lower classes to impress the preliminary ideas in their minds, make the pupils draw a picture of a tank and clouds rising from it to the sky; rain and tank, a mountain and a river—two watersheds and a waterparting; getting of cotton from the plant, the different stages of growth of a plant, etc.

Secondly, drawing is utilized in planning out maps. As a preparation, cardinal points, plan, scale, etc., should be taught. A map is a plan and not a picture. The flat maps do not present the elevation. It corresponds to the ground plan of a building. The following are some of the facts that can be inferred and explained:—a broken coast line must be rocky, subjected to storms, high waves and hence dangerous to ships. A moderately broken coast line furnishes fine harbours which promote commerce; a smooth coast is sandy and shallow: a wide mouth of a river shows high tide and facilitates commerce. A mountainous country is peopled by brave and hardy people, fearless and industrious and consists of a number of almost independent states, the government is generally republican and means of communication being difficult, the mountainous products, though abundant, are to be wasted, the national character remains unchanged and population is scanty. Political divisions, foreign possessions, if any, and historical associations must be told. Long and circuitous rivers indicate a level country with gentle slope and are fitted for navigation and consequently commerce.

A temperate climate stirs up the physical and mental powers and makes the people vigorous and industrious. Extremes of cold and heat give spasmodic energy, enervate the people and render them slothful and selfish. The work of

government is easy in such countries. In a rich and fertile country the occupations are generally agriculture, cattle and sheep farming; people mild and cowardly and government may be despotic. Abundant mineral wealth leads to mining and richness of manufactures.

Numerous canals and railways indicate the flourishing state of a country, commerce and civilization. Towns in groups are a sign of commercial occupation; towns on the coast signify fishing and trade as the occupation of the people while those on the interior indicate a green soil. The absence of a desert is an emblem of a deserted, uninhabited and unexplored state of the land.

Teaching of cardinal points. Give exercises to the boys to turn right and left, to change places with their neighbours and with the opposite boys. Question them about the position of the sun in the morning, midday and the evening. Call that side where the sun rises east (arbitrarily of course); draw line on the ground or on a cardboard from this side to its opposite side and call that side west. Let the pupils face east; tell that the left-hand side is called north and the right-hand side is spoken of as south. Fix the cardboard vertically on a blackboard. Now make the pupils understand why the top portion is called north and the bottom south, right-hand east, and left-hand west. Impress that these are the principal directions with reference to which the direction of any place in the earth can be fixed; hence these points are called the cardinal points.

Plan.—Make the pupils draw the ground plan of a square or rectangular rooms. Get them to draw on the ground a line on the north corresponding to the north wall. From the two extremities of this line draw two equal lines to correspond to the east and west walls. Join these ends. Elicit that this line corresponds to the south wall. Some boys draw smaller rectangles than other boys; when they compare they find out that further guidance is necessary. Now attempt to tell the boys the meaning of scale. Work out that the representation on the paper or black-

board needs shorter measurements than the actual size of the floor of the room. Hence say that in some plans 20 feet are marked by 1 inch 50 feet by 1 inch according to the size of the floor and that of the room. In this way convince them of the meaning of scale written in maps and plans such as the scale of 100 miles to 1 inch, 500 miles to 1 inch and so on. Placing some things on the floor of the room make the pupils mark their position on the plan. They will now mark them with proper accuracy. Lead them on to draw the plan of fields such as a rectangular field 5 miles by 2 miles with a tank 1 mile south and east from the northern and western boundaries respectively. Gradually the pupils can be made to understand how the positions of cities, rivers and hills are marked in the maps and how maps are developed. To represent elevations, clay with due reference to the reduced scale of heights is piled up on flat surfaces and slopes also are figured in proportion to their gradients. Thus construction of relief maps should be taught even in the early stages as plain maps are inefficient to serve their purpose. Having taught them the map of a province give them broad outlines of land and water using the globe. In the earlier stages we should not attempt to give elaborate proofs to show that the surface of the earth is curved. Make the pupils understand by looking at the globe that the surface of the earth is like that of an orange.

To find out the size of the earth, pass a string through an orange and another round the orange. Get the pupils to note that the circular measurement is $3\frac{1}{2}$ times the cross-measurement. From the scale written on the globe work out that the diameter of the earth is 8,000 miles and impress the immense length of the circumference of the earth.

The causation of day and night.—Appeal to observation: sun rising east and getting west. Remove the idea of sun's motion by an illustration. Take a light and pass it successively round the globe. Every part is lighted in succession by the light which is compared to the sun, passing round. Keep the light fixed on the east and

rotate the globe; mark a spot on the globe and turn it opposite to the light. Tell them that this position represents the position of this place with regard to the sun at midday. Similarly teach midnight.

Difference of heat in the different parts of the globe.—Fix a light; presenting the globe before it measure its distance from the different parts of the surface of the globe. Work out that the shortest distance is that between the equatorial region and the sun. Elicit from the pupils that the effect of the fire gets less and less as we move further and further away from the fire. By analogy impress that the heat is greatest in the equatorial, i.e. the torrid zone, less in the temperate zone and least in the frigid zone. The following points require a little advanced knowledge and should therefore be treated scientifically in the higher classes:—Position of the earth and the moon with regard to the sun, the solar system, seasons, eclipses, tides, latitude, longitude and calculation of time.

Thus, gentlemen, I have pointed out the educational value of geography which justified its introduction into the school curriculum, its scientific way of treatment, its subsequent degeneration into a routine subject cramping the memory, the recognition of this lapse by the educationists, its subsequent elevation to the rational scientific dais and finally the serene enthusiasm that characterises the teachers and the recipients of such a sound method of education.

PACHAIYPPA'S COLLEGE, MADRAS.

Extract from the High Court Judgment

The Revised Scheme.

1. DISPOSAL OF THE FUNDS.

The first serious contention arose over the 3rd article with reference to the proposal of the Trustees that the income of the fund should be applied primarily to the maintenance of the High Schools at Madras, Conjeevaram, and Chidambaram, and only secondarily to the maintenance of the College at Madras. I may say at once that I am unable to accept the suggestion. The College,

it is true, is a latter development than the High School, but appears to be of equal if not greater educational utility. Neither the High Schools nor the College formed any part of the founder plan or even, I think, of the scheme sanctioned by the Supreme Court in 1841, but they have all come into being and developed naturally in the course of years to meet educational wants, and I think that all are equally entitled to formal recognition and to be placed on a regular footing by the present scheme. It may, of course, be, though I think the eventuality unlikely, that the present resources of the Trustees may prove insufficient to enable them to maintain three High Schools and a first-grade College, but such a possibility may in my opinion be sufficiently provided against by enabling the Trustees subject to the control of the High Court to discontinue any of the said institutions or to alter the standard or grade thereof. This is in effect what the Advocate-General has proposed. Article 8 which requires the accounts to be audited concurrently as it is called once a month, and also at the end of the year was objected to as inconvenient if not impossible, and I was impressed by the objection until I found the Trustees in their counter-affidavit, para. 27, stated that a concurrent monthly audit by professional Accountants had been regularly maintained. Accordingly I approve of para. 8 as drafted.

2. CONSTITUTION OF THE BOARD.

The main contest related to the proposals as to the future constitution of the Board of Trustees. The Advocate-General proposes that one of the existing Trustees should retire at the close of such year, and the proposal has not been objected to. The difference is as to the manner in which future vacancies in the Board are to be filled up. Under the existing scheme vacancies are filled by co-optation and the Trustees who in this are supported by the Board of Revenue desire to see this system maintained. On the other hand it was originally proposed by the then Advocate-General when the matter came before Mr. Justice Boddam to do away with co-optation altogether and that four of the Trustees should

be elected by the Hindu members of the Senate of the University and four by the graduates of not less than four years' standing who had graduated from Pachaiyappa's College and one by the proposed College Council. Now I have come to the conclusion on a perusal of the evidence and the documents filed that the system of filling all vacancies by co-optation has not worked very satisfactorily, and Mr. Sundara Iyer for the Advocate-General has called my attention to certain passages in Tudor's Charitable Trusts which show that the same thing has been experienced in England and that in framing new schemes the endowed Schools Commission and the Charity Commissioners of recent years have provided for filling a limited number of seats by co-optation and the remaining seats on the nomination of bodies or persons who were likely to make a satisfactory choice. I may also observe that this is the course recommended in the report of Inspection Committee appointed by the Syndicate of the Madras University and by the Syndicate acting on their report. The Advocate-General proposes that three seats should be filled by co-optation and the remaining seats as follows:—Two by the Hindu Fellows of the University, two by the Graduates of Pachaiyappa's of ten years' standing, one by the Corporation of Madras and one by the proposed College Council. Now on this I may say that I think the addition of the Hindu members of the Madras Corporation is a distinct improvement, as the different sections of Hindu Society are fully represented in that body, and it may also be hoped that the Trustees nominated by the Corporation will be men with practical knowledge of business and affairs and of much use in the Board. I am not however satisfied that the scheme as it now stands provides sufficient guarantees for a due representation of the non-Brahman sections of the Hindu community.

3. ELEMENTS TO BE REPRESENTED.

In this connection it must be remembered that this is a Sudra foundation, that six out of the eight trustees originally appointed were non-Brahmans, and that up to the present time the

governing body has been preponderatingly and indeed in my opinion unduly Sudra, and it must also be borne in mind that other Sudras relying possibly more or less, it is impossible to say how far, on this fact have selected the governing body of Pachaiyappa's to be the administrators of the charities they themselves have created. Under these circumstances, and having regard also to the homely adage that he who pays the piper is entitled to call the tune. I do not think the Court would be warranted except for very grave reasons in altering the constitution of the governing body in such a manner as to make it probable or at any rate possible that the Sudra element would be entirely excluded from the governing body. On the contrary it appears to me to be the duty of the Court to see that the Sudra element is adequately represented. The learned Advocate-General states in his report that any provision to give representation to the various castes and sections of the Hindu community would apart from the impracticability of such proposals have the direct and undesirable result of perpetuating caste feelings and prejudices. Now I can quite imagine proposals that would have that undesirable result, but I hope it may be possible to avoid it whilst at the same time providing against the Board of Trustees being drawn exclusively or almost exclusively from one section of the Hindu community and that a section which does not include any of the pious founders whose charities the Board has to administer. I quite appreciate that in the draft scheme the Hindu Fellows of the University and the Hindu Graduates of the College have not been selected because they are Brahmans, but on grounds of general fitness, but it remains none the less true that they are practically Brahman constituents. On the other hand, the Hindu members of the Corporation represent all sections, and I think the balance may be to some degree redressed by giving the Corporation two nominations and the graduates only one. The graduates no doubt form a suitable constituency, but so also does the Corporation and the Board will, I think, be more representative of all sections if two trustees are nominated by the Fellows,

two by the Hindu members of the Corporation, only one by the Graduates, and one by the teaching staff. With the further object of providing against the undue predominance of any one community in the Board I think it well to provide that vacancies filled by co-optation shall be filled in such a manner as not to result in giving any one community more than four seats on the Board.

4. TRUSTEE'S QUALIFICATION.

The next question is as to whether there should be any qualification for election as a Trustee. Under the old scheme the Trustees must be Hindu residents of Madras. The learned Advocate-General has not dealt with the subject specifically in his draft scheme, or discussed the question in his report, but the existing qualification would appear to be preserved by virtue of the saving clause at the end of the draft scheme. Mr. Sundara Iyer, who appeared for the Advocate-General, objected to the further qualification asked for by the existing Trustees with the support of the Board of Revenue. One of the recommendations of the Syndicate of the University after the report of its Inspection Commission on the College, both of which have been filed, was that the Trustees should be men of educational qualifications as well as position and influence in the city of Madras. Now one way of endeavouring to secure that members of an elective body shall be men of position and influence is the imposition of a property qualification, and this method is resorted to in the city of Madras Municipal Act 1904, and other measures of Indian Legislatures. Such a provision is always open to the objection that it may exclude eligible as well as ineligible candidates, but I do not think it will be likely to restrict the field of choice unduly or to give rise to any practical inconvenience, and in making a new departure, as we are now doing, I think it will be better to require a property qualification at any rate at the outset and until we have had some experience of the working of the new scheme. The qualification proposed by the Trustees is that the Trustee shall be a Hindu resident in Madras and owning in his own right immovable property,

paying taxes in the aggregate of not less than Rs. 200 a year. This qualification has been criticised as too stringent, and on the whole I think it will be well unless some better qualification be suggested, to take the property qualification in Section 23 of the City of Madras Municipal Act, 1904, or any subsequent modification thereof and have the scheme amended accordingly. It is, I think, then necessary to supply an omission by providing that any Trustee who becomes insolvent or is imprisoned without the option of a fine should *ipso facto* vacate his seat.

5. THE COLLEGE COUNCIL.

The only other question of importance relates to the creation of a College Council to exercise superintendence over the heads of the college and schools by whom the internal educational management of local college and schools is to be conducted. The object is to prevent the undue interference of the Trustees with the Principal and Headmasters in matters which concern what is called internal educational management. The proposal has, however, been criticised by Mr. Napier on behalf of the Trustees on the ground that it will make the position of the Principal and Headmasters much more difficult by subjecting them to constant interference by the proposed Council, and that it is likely to increase instead of diminishing friction. Mr. Sundara Iyer referred to the constitution of Madras Christian College as set forth in its calendar, but in that institution the management is not vested in a Principal, but in the Professors of the College who constitute the Senatus of which the Principal is merely the Chairman and the Senatus is subject to the revision and control of the College Council, whose functions correspond with those of the Trustees, and behind this there is supreme governing body, the general assembly of the United Free Church of Scotland. Under these circumstances I hardly think the Senatus of Christian College affords a useful analogy. Then Mr. Lepper, a former Principal of Pachaiyappa's, who gave evidence, has referred to the Mahavejah's College, Trivandrum, where the internal management is vested in the Principal with an

OUR ENGLISH LETTER.

LIVERPOOL, October, 1908.

One of the great events of September has been the holding of the great Moral Education Congress. Unfortunately it was not possible to arrange for it in the early part of the month when most of the teachers of reluctant youth would have been free to attend. The Lord on County Council, however, made arrangements for the attendance of some of their teachers. It was of course suggested that the permits of absence granted were meagre in the extreme, but anything further was quite out of the question as any impartial observer would admit. It is of little use to allow children to run riot in an under-staffed school even while their teachers are imbibing the most helpful ideas about moral instruction. The Congress was certainly a step in the right direction. It formed a meeting ground for teachers of many nationalities and different schools of thought, and nothing but good could result. There were no executive powers vested in the assembly, and no one was bound in any way by what was said and done. But much is gained by a free ventilation of views and by a closer insight into the methods adopted in other countries to achieve the one end of all education to equip the young for the work of life.

The High Master of Manchester Grammar School is an acknowledged expert on educational matters. And he has fallen foul of the Congress. He has published in the *Daily News* an attack upon the principles on which it set to work. He speaks of the necessity of basing conduct on faith in the Unseen, and is indignant that apparently the realities of the Unseen world are not to be mentioned by the teacher. "The League for Moral Instruction on a non-theological basis would have it so, but the teachers of England will have something to say, I imagine, before our schools are 'laicized' on their non-theological basis." But surely Mr. Paton is showing less than his usual wisdom in this matter. He is a friend of religious education, but there is no necessity on this account that he should oppose a careful con-

Advisory Council of the leading members of the staff. Now if it is considered necessary to subject the Principal and Headmasters to any control in the internal management I think the Trivandrum System of Advisory Council is better than the proposed College Council, and I should be prepared to consider favourably any revised proposals on these lines which may be put forward. Otherwise I think it will be better simply to strike in Article 20 all the words after "respective institutions" down to "Council," thus leaving the internal management to the Principal and Headmasters. The existing Trustees have disclaimed interference in the internal educational management, and on further consideration I think it unnecessary to insert any words reserving to them any such right of interference. The right of nominating one Trustee will then be vested in the Teaching Staff instead of in the College Council, and it will be necessary to provide in Article 11(b) who shall constitute the Teaching Staff for this purpose. Mr. Sundara Iyer has also asked that the right of making appointments should be vested in the College Council, thus going beyond the draft scheme. Without going so far as this I think that the right of making minor appointments should, subject to confirmation by the Board, be vested in the heads of the respective institutions, or if there is to be an Advisory Council in the head and such and such Council. It will then be necessary to draw the line as to what appointments are, or are not to be made in this way. It was also agreed on all sides that there should be an additional article giving the Trustees power to frame bye-laws for giving effect to the scheme.

The scheme will be modified by inserting such a bye-law. The scheme will also contain a provision for liberty to apply as in the decree Mr. Sundara Iyer for the Advocate-General is prepared to file a revised scheme by the end of the month and to furnish the Trustees with a copy. The case will accordingly be adjourned for submission of this scheme to 8th December.

sideration of the moral conditions and aims of education. If as he says the road to goodness is as plain as the road to market, still even the road to market sometimes needs pointing out. We are reminded of the familiar story about the clergyman newly appointed to a Yorkshire charge. He inquired the way to Halifax of a blunt-spoken type who blurted out indignantly 'What, you come here to tell us the road to Heaven, and you don't even know the way to Halifax.' Teachers need to have their minds informed and their hands strengthened to make their influence upon their scholars as living and impressive as may be. There is surely nothing mutually exclusive about religion and morality, or religious instruction and moral instruction, and if some of the 'moralists' take an extreme view we are not much helped by a 'religionist' flying to the opposite extreme. The warfare of falsely emphasized alternatives is not a welcome one: should we not rather look upon them as complementary parts and aspects of the whole truth? And when we get an assembly of teachers who are working disinterestedly in the moral training of the young and so working for the moral progress of humanity, surely however their principles and methods may differ, it is likely that there will emerge out of the welter of opinions an essential agreement which will be shown to be more essential than all the differences. We may recur to this Congress, but for the present we shall pass on to other matters.

The British Association also met in September. Professor Miall presided over the Education Section and his own were probably the most useful contributions that were made. Professor Armstrong read a paper on 'The Outlook: a grand experiment in Education,' in which he enunciated his well-known views on practical teaching. The most promising development he found in the naval schools at Osborne and Dartmouth where the idea that a school was a place merely for literary study had been finally exploded. In education authorities he had not much faith; he seemed to think they were more concerned about their authority than about education.

Sir Oliver Lodge strongly supported him, and one remark of his is certainly worth quoting—'We are too fond of treating children as if they were only brain, whereas it is no use to train either the mind or the body alone, it is necessary to develop the links between the brain and the limbs and the sense organs.' Sir Oliver Lodge is certainly himself a good example of what can be achieved by a boy who leaves school at what is still the statutory, though an absurdly early age—fourteen.

As the Association met in Dublin just after the passing of the new Irish University Act there was naturally much discussion in public and in private as to the course that should be taken in filling in the details of the new Act. As we have pointed out before, everything will depend upon the spirit in which the Act is worked. One result certainly ought to be a new importance attached to education in all its grades. A really national University ought to provide a stimulus to all national education. Such a stimulus is much needed in Ireland where a large number of elementary teachers get a salary of £48 a year. Another innovation ought to have reference to a better training of teachers. There certainly ought to be a Faculty of Education in the new University.

Peculiarly sad was the death of Churton Collins. There are before the public to-day a number of men who are counted fit to pronounce *ex cathedra* on literary matters, but hardly one of them is worthy to stand by the side of the man whose death has been so genuinely regretted. Where many claim the right to speak without having the qualifications—there are few rôles easier to assume than the literary expert's—Churton Collins's pronouncements always carried weight. He should have been a Professor at Oxford if he had had his due. But in the end the son of Balliol was honoured by Birmingham. He was steeped in the classical literature of Greece and Rome, and at the same time there was nothing pedantic in his treatment of our English authors. It is unfortunate that he should have been obliged to lecture so assiduously as he did.

His health gradually weakened under the strain and his life has now been ended by an unfortunate accident.

Parliament is just about to meet. As ever with a Liberal government, they have undertaken and promised more than they can carry through. It hardly appears what time will be available for Mr. Runciman's new Education Bill. The Session will be mainly occupied with the discussion of the Licensing Bill, the opposition to which has been much strengthened and gathered much weight by the recent Conservative triumphs at the polls, culminating at Newcastle. The Non-conformists are beginning to point to their waning faith in the Government's intentions with regard to Elementary Education as the main cause of the decreasing Liberal polls. Perhaps the Government will take immediate action, and abandon 'contracting out' for something like the principle that underlay Mr. Birrell's Bill. It is hard—and idle—to prophesy.

Reviews and Notices.

SCHOOL HISTORY OF GREAT BRITAIN AND IRELAND, BY G. W. PROTHERO: THOMAS NELSON AND SONS. 2s. 6d.

The publishers of the book before us have already rendered eminent and meritorious services in the production of books specially adapted to the needs and tastes of the school-going public, and not the least among these will rank the publication of this School History of Great Britain and Ireland from the practised hand of Dr. Prothero, late Professor of History in the University of Edinburgh. The history is divided into two books, the first book coming down to the Tudor Age, and the second to the death of Queen Victoria. The former is divided into four parts, Part I treating of the *Beginnings of the State* up to the Norman Conquest; Part II tracing the growth of the *Absolute Monarchy*; Part III entitled *Crown and Parliament*, from the reforms of Edward I to the end of the Middle Ages, and Part IV entitled the *Beginnings of the Modern State* dealing with the Tudor Period. The second book consists of three parts, entitled respectively, *The Struggle for Parliamentary Government*, *The Creation of the British Empire* and *Commercial*

Growth and Political Reform. The author observes in the very forefront of the book that perhaps the two most important things we can learn in British history are—first the way in which the different parts of Great Britain and Ireland have come to form one United Kingdom; and secondly, the way in which the system of Parliamentary Government has gradually grown up. It is true that these two important things are well brought out in the book before us, but the author also devotes much attention to the formation and development of the British Empire and the social and industrial history of the people. He has also devoted a few excellent chapters to the history of literature during the several periods. The author writes a vivid and concise style, and has succeeded in giving an admirable account of the salient points of the history in less than 500 pages. As an example of the author's style we would instance the following admirable characterisation of Queen Victoria:—

"For upwards of two generations Queen Victoria was the centre of her people's affections, rejoicing with their joys, grieving with their sorrows, sympathising with their hopes and ambitions. Her great political influence she constantly used in the cause of peace without and harmony within; her political wisdom and experience she placed with persistent and unselfish devotion, at the service of her country; and she carried out the high conception of a constitutional monarch as it had never been carried out before." The coloured reproductions of great historical paintings, which form a special feature of the book, add as much to the value of the treatise as they enhance the pleasure afforded by its perusal. We have nothing but praise for this admirable book, and we warmly commend it to the notice of our High School teachers and pupils.

1. SHAKESPEARE FOR SCHOOLS, EDITED BY A. V. HOUGHTON: LONGMANS, GREEN & CO.
2. THE ELIZABETHAN SHAKESPEARE: JULIUS CÆSAR, EDITED BY W. H. HUDSON: G. G. HARRAP & CO. 2s. 6d. net.

The first of the above books is a reprint of twelve of what in the editor's opinion are the most suitable of Shakespeare's plays for school reading. These plays are the histories of *Richard II*, *Richard III* and *Henry V*, the comedies of *A Midsummer Night's Dream*, *Twelfth Night*, *As You Like It*, *Merchant of Venice* and *The Tempest*, and the tragedies of *Julius Cæsar*, *Macbeth*, *Hamlet* and *Coriolanus*. There may be some

question as to the omission of *Henry IV* and *Much Ado About Nothing* and the inclusion of *Hamlet*, which though excellent meat for men is hardly milk for babes, but we think that the editor has made as good a selection as can be made, the number being limited to twelve. At the end of the book there is a glossary which we should wish to be much fuller than it is, for we have found it fail us in several cases in which we turned to its help. To mention only a single instance, the word "conscience" in the sentence "Thus conscience does make cowards of us all" in *Hamlet's* famous soliloquy is used in a different sense from that borne by the word in the passages: "They are not near my conscience"—"is it not perfect conscience, to quit him with this arm,?" but the glossary does not give any aid in the matter. We trust that in the preparation of a second edition special attention will be paid to the glossary. The lines of the plays are numbered, and the book is neatly printed in readable type.

The other book before us belongs to a new edition of Shakespeare's plays by W. H. Hudson. The text is reprinted from the famous first folio and in a general preface which is apparently prefixed to each play in the series, the editor explains and justifies his choice. In the words of the editor, the aim of the present series is to place the unrivalled text of the folio before the public in easily readable form, together with such a systematised apparatus of brief textual notes, and fuller, but not too copious literary notes, glossaries, list of variorum readings, and introductions for each play, as may combine with the Elizabethan text the advantages of a thoroughly modern editorialequipment, embracing the fullest results of Shakespearean scholarship. The aim of the editor is fully realised in the edition of the play of *Julius Cæsar* before us, and we heartily commend it to the notice of all students of Shakespeare.

THE ENCHANTED GARDEN: T. NELSON & SONS.
1s. 6d.

This book forms Part V of a series of readings in prose and verse entitled "The Royal Treasury of Story and Song," a previous part of which entitled "Golden Gifts" was noticed in these columns a few months ago. This part is characterised by the same merits as that which we have already reviewed. The excellence of the selections, the type and paper used, and the illustrations, many of which are coloured, go far to justify the happy title of the "Enchanted

Garden" bestowed on this part. It will form an excellent book for use by our High School students.

HEATH'S ENGLISH CLASSICS: (1) JOAN OF ARC AND THE ENGLISH MAIL COACH, BY DEQUINCEY, EDITED BY C. M. STEBBINS, 1s.; (2) THE LAYS OF ANCIENT ROME, BY MACAULAY, EDITED BY M. H. SHACKFORD, 1s.; (3) BACON'S ESSAYS, EDITED BY F. A. HOWE, 1s. 6d.: D. C. HEATH & COMPANY.

Apart from furnishing an accurate text the editors of these reprints of English Classics render such ample assistance in the way of references and notes as is requisite to their appreciation. The first of these books contains a short but full sketch of the life of DeQuincey and a useful historical note tracing the origin and development of the romantic revival of English literature in the latter part of the eighteenth century and the first half of the nineteenth. The reprint of Macaulay's Lays is prefaced by a short study of heroic poetry, while that of Bacon's Essays contains a succinct introduction giving the main outlines of the philosopher's life, the salient features of his character, and tracing his influence upon the advancement of science, and noticing the peculiarities of his essays as regards matter and manner. The editorial notes at the end of each reprint are copious and helpful, and serve to elucidate the text. The books are neatly printed and bound.

ENGLISH LITERATURE FOR SECONDARY SCHOOLS: (1) SCOTT'S TALES OF A GRANDFATHER (FIRST SERIES), ABRIDGED AND EDITED BY J. HUTCHINSON; (2) STORIES FROM THE ARABIAN NIGHTS, EDITED BY A. T. MARTIN; (3) GRIMM'S FAIRY TALES, EDITED BY A. T. MARTIN; (4) WASHINGTON IRVING'S RIP VAN WINKLE, THE LEGEND OF SLEEPY HOLLOW AND OTHER SKETCHES, EDITED BY H. M. BULLER: MACMILLAN & CO., 1s. each.

The special features of this series are that the texts, while not elaborately annotated, are provided with such introductions and notes as may help to an intelligent appreciation thereof, and that the editors furnish a set of questions carefully chosen so as to direct study upon right lines and discourage cramming of unessential facts. We are glad to bring these useful reprints

to the notice of the teachers and managers of our High Schools.

MODERN ARITHMETIC, WITH GRAPHIC AND PRACTICAL EXERCISES, WITH ANSWERS; IN 2 PARTS, BY H. SYDNEY JONES: MACMILLAN & CO., 1907.

The two books have been written 'in the spirit of recent recommendations.' Questions involving tiresome calculations and having little practical value do not find place here. A very large number of practical exercises is given to enable the student to get correct ideas. Decimals are introduced before Vulgar fractions, to enable the student 'to think in decimals.' Many mental and oral exercises are introduced 'to stimulate the habit of ready calculation.' In the 2nd Part, the method of finding areas of surfaces and volumes of solids is treated graphically, and the principle of Calculus is introduced in an intelligible manner, without the mention of the name 'Calculus.'

The whole work is conceived in a scientific spirit, and as books on the method of teaching Arithmetic, they will be found invaluable.

We strongly recommend the books for school-libraries and for use by all teachers.

THE SCHOOL ARITHMETIC (THE UNIVERSITY TUTORIAL SERIES) BEING A SCHOOL COURSE ADAPTED FROM THE "TUTORIAL ARITHMETIC" OF THE SAME SERIES, BY W. P. WORKMAN, M.A., B.Sc.; THIRD IMPRESSION (SECOND EDITION): UNIVERSITY TUTORIAL PRESS, LTD. 3s. 6d.

This book has been kindly sent to us by the publishers; and we thankfully accept it. As the title itself points out, the book has been adapted for school-use, and contains a fresh set of examples in Approximate methods. Many of the "Harder Problems" have been omitted. The book, we trust, will be found useful in High Schools.

Indian Educational Notes.

MADRAS.

Miss M. A. Jupe, Sub-Assistant Inspectress, Trichinopoly-Madura Girls' range, is to act as Assistant Inspectress in the West Coast Girls' range during the absence of Miss Patterson on leave or until further orders.

Miss P. F. Parsons, B.A., L.T., Second Assistant Inspectress is to act as First Assistant Inspectress, vice Miss Patterson on leave.

Miss R. McLeod to be Superintendent, Primary Department, Teachers' College, Saidapet.

The Director of Public Instruction is pleased to order the following transfers of Sub-Assistants:—

(1) Mr. G. Dasanna Pantulu, Sub-Assistant Inspector of Schools, Tanuku range, to be Sub-Assistant Inspector of Schools, Polavaram range—to join as soon as possible, after handing over charge to clerk.

(2) Mr. V. A. Venkatasubbayya, Sub-Assistant Inspector of Schools, Polavaram range, to be Sub-Assistant Inspector of Schools, Tanuku range, but to continue to act in Bapatla range.

(3) Mr. E. Ramakrishnayya Pantulu, Acting Sub-Assistant Inspector of Schools, Polavaram range, to act as Sub-Assistant Inspector of Schools, Tanuku range, in the probationary class, vice No. (2)—to join on relief.

The Government are pleased to sanction a grant of Rs. 2,466 or one-third of the actual expenditure, whichever is less, towards the cost of constructing a building for the Rosario Middle School, Mangalore, subject to the following conditions:—

(2) that the work is completed before the 31st May 1909;

(3) that a certificate of the actual expenditure incurred on the work is submitted before the 30th June 1909;

(4) that the amount expended on the work does not fall short of Rs. 7,400 as actually verified;

(5) that all other conditions prescribed in the Grant-in-Aid Code have been duly complied with.

2. On the above conditions being fulfilled, the grant will be paid as funds become available.

The Government of Madras have approved the recommendation of the Industrial Conference held last month that there should be a special department under a special officer to deal with industrial questions. This officer will be styled the Director of Industries and will correspond direct with Government and is to submit to Government his recommendations as to the constitution, functions and curriculum of the industrial institutions under his control.

The Madras Government has vetoed the proposal of the Palghat Municipality to reduce the pay of the Principal of the local Victoria College. The Govern-

ment has directed that the Principal's pay should, on no account, be reduced from Rs. 500.

THE Government have gladly accepted the offer of Mr. Strange, made on behalf of the officers of the former Madras Railway Company, to endow, in connection with the College of Engineering, Madras, a prize in the name of Mr. J. H. Thompson, M.I.C.E., late Chief Engineer of that Railway. The Accountant-General has been authorised to receive the amount remitted by Mr. Strange on account of this endowment and to purchase Government securities for the amount, reporting to the Director of Public Instruction the number of the securities purchased and the balance in cash, if any. The Director of Public Instruction has been requested to obtain 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 endowment.

THE Government of Madras have approved the proposal of the Director of Public Instruction to employ from 1st March 1909 an additional teacher on Rs. 30 per mensem in the Hobart Training School for Mistresses for teaching exclusively needle-work to the pupils of the practising section.

THE Malabar District Board has resolved to abolish the Manantoddy Lower Secondary School from the beginning of the next official year. The Board intends entertaining two graduate headmasters for supervising the eight Lower Secondary Schools managed by it.

THE Government have accepted the recommendation of the Director of Public Instruction that the Valaiyans of Tanjore, the Agambadiyans of Madura and the Padiyachis of Tanjore may be recognized as backward classes and included in the list in rule 15 of the Grant-in-Aid Code and have stated that as the Sedans, Seniyans and Pattans of Tanjore belong to the castes of Pattunulgars, Saliyars and Valluvas, respectively, classes already recognized as backward and included in the list of backward classes enumerated in rule 15 of the Grant-in-Aid Code, the pupils of the former classes may claim the privileges to which the pupils of the latter are entitled.

THE annual meeting of the Teachers' Association, Madura was held recently in the local Victoria Hall.

Mr. L. C. Williams Pillai Avergal, B.A., F.M.U., the Inspector of Schools presided. The report of last year was read, of which the following is a summary.

The year began with 32 members on its rolls. There were 3 admissions, 3 withdrawals and 2 deaths. The receipts and charges for the period were Rs. 350-15-7 and Rs. 166-7-4-0 respectively. There were 689 volumes in the Sundaraman Library at the

beginning of the year. The total number at the end of the year was 924, 100 volumes having been again presented to the Library by M. R. Ry. K. Sundarama Aiyar Avergal, M.A. of Kumbakonum.

The Association subscribes for (1) "The Teachers' Aid"; (2) "London Educational Times"; (3) "The Madras Educational Review." There were 15 meetings during the year, the most important subjects discussed were: (1) Free Primary Education; (2) The School Final Examination; (3) The American System of Education. After the reading of the report, M. R. Ry. P. N. Panchapakasa Aiyar Avergal, B.A. L.T., read an interesting and instructive paper on "The Flora and its relation to commerce." The Chairman in his concluding speech spoke on the importance of the teachers' paying special attention to their diet and exercise. He laid stress on the importance of forming social and reading habits. He pointed to the necessity of educating the females and suggested some practical methods whereby the teachers could easily carry out the same and thus do good to the country at large.

With a vote of thanks to the chair the meeting came to a close.

THE celebration of the Royal Proclamation Day at Pattamadai (Tinnevely Dist.) was made one with the Thirteenth Anniversary of the Young Men's Club, which was celebrated with great éclat. The members of the Club were seen busying themselves collecting subscriptions among themselves and getting up by heart the dramatic scenes they desired to act on the stage on their anniversary day. The Divisional Officer, Shermadevi, who was invited to preside, having declined on account of another engagement, the Headmaster and Manager of the High School was unanimously voted to the chair.

The proceedings began with the reading of the report by the Secretary, who then made the public understand that the Association did its work satisfactorily during the past year, that the members had nothing to subscribe and so 'they could not boast of a heavy purse', and that the expenses of the Anniversary were met by special subscriptions from the members. He thanked the teachers for the invaluable help they had rendered and said that their success was entirely due to the encouragement the senior masters gave them.

Then were put upon the stage a few scenes from Shakespeare's "Measure for Measure" (inculcating strength of virtue and goodness), and a few humorous and thrilling scenes from Sheridan, which set the audience (including the past students of the school) into roars of laughter. The scenic effects were looked after by some of the members, and it must be said that the arrangements were very good. The actors played their parts excellently for their age and their attainments.

The Chairman made a very impressive speech, eulogising the students for their self-efforts, referring to the aptness of their celebrating their anniversary on the Royal Proclamation Day, advising them to be obedient and loyal and not to be swayed

away by the utterances of the unthinking and the mischievously-inclined, and expatiating on the benefits of British rule and the manifold blessings enjoyed by the people of the country.

Then the proceedings of the evening came to a close with three cheers to Their Majesties the Emperor and the Empress of India, proposed by the President, and a hearty vote of thanks to the Chairman, proposed by the Secretary.

After a substantial dinner provided by the students to all their guests (the teachers, the old students and the gentlemen from out-stations who attended), all were given a musical treat; first, for a half-hour or so, a Kolattam performance of a primitive character by the local Mahomedans, and then for about three hours, vocal and instrumental music by experts. Late at night, all repaired to their welcome-beds, eyes drooping and sleep overtaken.

HER Excellency Lady Lawley accompanied by Capt. F. F. Elwes, I. M. S., Surgeon to H. E. the Governor, paid a visit to the Mylapore Girls' School. Her Excellency arrived and was received at the entrance to the building by Mr. A. S. Balasubramania Aiyer, Honorary Secretary, and a few of the members of the Committee and conducted round the various classes which were at work. The Head Mistress of the School then presented an address on behalf of the staff of the institution. The address was in the following terms:—

May it please your Excellency—Your Excellency's association with our institution has commenced a new era of prosperity to the School, and the day is not distant when the wishes of the public of Mylapore to have a High School for women may be gratified. We owe a deep debt of gratitude to the Maharaja Kumarika of Vizianagaram for giving us a habitation of our own, and to our esteemed citizen, the late Sir V. Bhashyam Iyengar, Kt., C.I.E., who took a genuine interest in the welfare of the School and secured for us the munificence of the generous-hearted lady, the Maharaja Kumarika. The teachers of the School who are all of them trained and qualified School-Mistresses, are trying their best to adopt the recent and natural methods of teaching and to make the School interesting and attractive to children. Religious instruction, Music and Needle work are being paid special attention to. The average attendance is 108 girls or 82 per cent. of the strength of the School. There are two Hindu virgin widows, one a Brahman, and the other a non-Brahman receiving Government Scholarships, and they have the intention of continuing their studies to a high standard. The Government have enquired if the School will be handed over to Government with a view to develop it into a fully-equipped Secondary School, and the Committee have expressed their willingness to do so and trust that your Excellency's name will soon come to be associated with a High School for Hindu Women.

A PUBLIC meeting of the Presidency College Union Society was held in the upper hall of the Presidency College, when Mr. J. H. Stone, M.A., F.R.H.S., delivered a very interesting lecture on "The construction and staging of the modern drama." The Honourable Mr. Justice J. E. P. Wallis presided at the meeting.

The lecturer dealt at great length with the progress of the dramatic art from ancient times, and observed that the modern drama was more conventional than realistic. He read extracts from the plays of Ibsen and Bernard Shaw, and the audience listened with great interest to the portion of the play reciting the famous passages relating to the fruitless endeavour of Dr. Stockman, Health Officer, to introduce good water supply by recommending to the Burgomaster the re-laying of pipes, and the opposition of the Burgomaster to the proposal of Dr. Stockman on the ground of excessive cost of the scheme to the tax-payers.

The Chairman made a few concluding remarks and said that he had not seen anything more conventional than Bernard Shaw's plays. At the same time there were no plays more amusing to listen to, but realism in the sense of true and accurate reproduction of life was not their strong point. As Mr. Stone pointed out, one of their sources of attraction was that they were not mere plays but were also vehicles for the propagation of certain political and social views which were of great importance. He was sure that the meeting listened with great pleasure to the lucid sketch which Mr. Stone had placed before them of the progress of dramatic art. The Presidency College produced brilliant men who were now in various walks of life, and he hoped that the College would produce an Ibsen and a Shaw.

Mr. Stone made the announcement, which was received with cheers, that Mr. Justice Wallis had consented to become an Honorary Member of the Presidency College Union Society.

The meeting terminated with the usual vote of thanks to the lecturer and the chairman.

THE Anniversary and Prize-distribution of the Sri-Mahant's Devasthanam Hindu High School, Vellore, is fixed to take place on the 20th December next. Mrs. Annie Besant will preside.

THE Educational Conference at Sankaranai-narkoil was held in a magnificent pandal. English and Indian exhibits were arranged splendidly in the Coronation Hall. Mr. N. Gopalasamy Iyengar, Deputy Collector, welcomed the guests and requested Mr. Williams Pillai to open the proceedings, who delivered a stirring speech. Tamil lectures were delivered by Father Arpudam on 'Elementary Science', Mr. Chelvarangaraju on 'Physiography', Mr. Venkatarama Iyer on 'Free arm drawing', in the presence of a large gathering. The Rev. Mr. Carr opened Wynch Library, Miss Carriapet

the Ladies' Section of the Exhibition. The Rev. Mr. Carr closed the proceedings.

The Agricultural demonstration was held under the auspices of Rao Bahadur Dharmaranga Raju and Selvaranga Raju. Lectures were delivered by Mr. Periyannayagam on 'Geography', Mr. Gopalasamy Aiyangar on 'Silk weaving', Mr. Muhamud Miran on 'Living organisms', Mr. Venkatramaiyer on 'Forestry', Mr. Dharma Ranga Raju on 'School gardening.' A social gathering under the Sankarainarkoil Club auspices was held. The President in his closing speech paid a compliment to Mr. Govindarajulu Mudaliar. The Conference was in every way a success and an unprecedented event in Sankarainarkoil.

THE Palghat Inter-School Sports was held at the Fort Maidan. Five of the High Schools and the Victoria College took part; and there were nearly 7 events, 127 competitors, and 27 prizes besides a gold medal sanctioned by the Government of Madras to be awarded annually to the school that gains the highest number of marks at the Sports. The medal was won by the High School department of the Victoria College.

MR. P. Lakshmi Narasu Naidu, B.A., Professor, Christian College, Dewan Bahadur L. A. Govindaraghava Iyer, High Court Vakil, and Mr. V. S. Srinivasa Sastri, a member of the Servants of India Society, have offered themselves as candidates for the vacancy of two Fellows of the Madras University to be filled up by election by registered graduates of the University.

THE Government have sanctioned the employment of an additional Assistant on Rs. 35 per mensem for the Government School of Commerce, Calicut, on the report of the Head Master that the strength of the school has risen so high as to necessitate the splitting up of the class into more divisions than at present for purposes of efficient instruction.

THERE was a large gathering present at the Victoria College Hall when Mr. K. Imbichunni Nair performed the interesting ceremony of unveiling a life-size oil-painting of Mr. Glyn Barlow, M.A., the beloved Principal of the Victoria College, Palghat. Mr. A. T. Ramanujachari, M.A., L.T., the Vice-Principal opened the proceedings. Mr. Barlow made a short speech after the ceremony expressing his grateful thanks to one and all that did him honor that evening.

MYSORE.

THE Research Institute at Bangalore is now rapidly passing out of the preparatory stage into one of active utility. The buildings are well advanced. Three Professors are in residence, and twenty promising Research students have applied for admission.

mission. A beginning is being made with chemical work, and other subjects of industrial utility will soon be included.

THE Maharani's College, Mysore, held its annual prize distribution recently when H. H. the Dowager Maharani presided. Mrs. K. D. Rukmaniamma, B.A., Officiating Lady Superintendent of the College, during the course of her address said:

"I need only observe that the aim of the school as defined by His Highness the late Maharaja through his favourite minister, Sir K. Seshadri Iyer, is to make this institution 'the model of those halls of learning of Ancient India where pious women dedicated their lives to the noble work of imparting instruction both religious and secular to the younger members of their sex,' to make it 'the means of training large numbers for the profession of lady teachers for all parts of the country, to offer an asylum as well as a field of philanthropic work to those Hindu women who from misfortune are destined for a single life, and who, deprived of the opportunity for the exercise of their affections within the small circle of a family, would find a congenial employment in educating the young of their sex;' and bearing as this school does Your Highness's revered name it is our bounden duty to so conduct it as to realise however slowly the aim above set forth and to make it a source of 'domestic happiness and peace as well as fountain of light, and of every noble and holy aspiration' as felicitously expressed by the Marchioness of Dufferin during her visit to the school in the year 1886."

MR. C. R. Reddy, B.A., (Cantab) has been appointed by His Highness the Maharajah of Mysore as Assistant to the Inspector-General of Education in the State. Mr. Reddy is a young man of brilliant attainments, and is a distinguished graduate of the Cambridge University. While pursuing his academic studies, he had the unique distinction of having been elected Vice-President of the Cambridge Union. He is a native of the North Arcot District and took his degree in the Madras University as a student of the Christian College. He proceeded to England to study at the Cambridge University as a Government of India scholar. We understand that a post in the Provincial branch of the Madras Educational Service was offered to Mr. Reddy some time ago, but he declined to accept a place which was not included in the Indian Educational Service.

COCHIN.

THE authorities of the St. Albert's High School, Ernakulam, are considering the desirability of opening special classes to qualify Eurasian boys for service in the Indian Military, Medical and Railway departments.

BOMBAY.

THE Bombay Sanitary Association has offered a prize of rupees one hundred for the best essay in English on 'Abatement of Overcrowding in Bombay.'

PROFESSOR Burton of Chicago, visited Ahmadnagar on his way from Bombay to Lahore, and addressed the students of the Theological Seminary.

THE Gaekwar of Baroda has directed Mr. D. E. Wacha's paper on the Science of Commerce to be translated into Gujarati and circulated among State schools.

THE citizens of Bombay have subscribed nearly Rs. 5,000 towards the expenses of the commercial lectures to be given by Professor Lee Smith.

A most astonishing state of affairs has come to our notice, writes the *Bombay Gazette*, with regard to the Karachi Grammar School. The school was founded in 1854 by Sir Bartle Frere for the education of European and Indo-European children. It is the only establishment of the kind without any religious test in Sind. This alone constitutes a great claim on the public authorities for their support. Such support however, has always been grudgingly given. The Government grant-in-aid was originally fixed at Rs. 100 per mensem, reduced to Rs. 80 in 1858, but subsequently increased to the magnificent sum of Rs. 2,000 per annum. The Karachi Municipality also contributes Rs. 600 per annum. The school is for both sexes. The staff consists of a headmaster, an assistant master and two mistresses for the girls. The buildings are old and out of repair, the school furniture and fittings entirely antiquated and unserviceable, and the equipment, staff and scholarship funds alike starved. Having said so much, it might be supposed that the full tale of the neglect of the education of European children in Sind had been told. But worse is to come. More than two months ago the assistant master resigned. No respectable man could be found to take up the vacant appointment on the miserable pittance offered. The school carried on as well as it could with a diminished staff. Six weeks ago the head master was struck down with enteric fever. The school, as far as the boys' side was concerned, was now without any teacher at all. The state of affairs has been allowed to continue and continues to-day.

THE Committee specially appointed by the Government of Bombay have submitted a report stating that in their opinion the time has not come for the introduction of free or compulsory education in the city of Bombay. They advocate increasing the number of free schools and as the number of teachers is not sufficient they recommend that Government should establish a training college.

THE prize distribution of the Ernakulam College took place recently under the distinguished patronage of H. H. the Rajah of Cochin.

The proceedings began with the reading of the College Report for 1907 by Mr. Davies, the Principal. The Report, quite hopeful and cheerful in its tone, gave an interesting account of the main features in the working of the institution. It laid special stress on the gratitude felt by the College to H. H. the Raja and to H. H. the Diwan for sympathy and generosity during the year under report. The reorganisation of the staff in view of the new University curriculum, the provision for science laboratories, the passing of the plan of a large hostel, these were the leading items. The statistics were printed, as also the names of the prize-winners, so it was only necessary for visitors to turn to these figures to form their own opinions. The percentage of attendance was seen to be very high, the number on the roll had increased, while the University results were excellent—in F.A. 61.2 per cent. as against 43.8 per cent. for the Presidency, putting Ernakulam first in the Presidency; in Matriculation, in this year of 'the massacre of the innocents' 34.3 per cent. as against the Presidency average of 17. The reading of the Report being over, the prizes were given away by H. H. the Raja. Then came the address by Mr. Davidson, the Resident.

Proceeding to the Principal's Report he remarked that it was thoroughly satisfactory and that, while it was brimful of good features and suggestive touches, he had failed, though he had tried, to detect a single bad feature in it. A special feature of the Report was the great increase, during the year, in the number of College students. This bore eloquent testimony to the good work the College was doing and the splendid results it had produced in the University Examinations, not to omit the good results produced also by its 'feeders'—the Sirkar High Schools of the State. He was glad to notice that proper attention was paid to sports in the College and fittingly pointed to the *Rama Varma Shield* hung up on the wall behind, which, he remarked, was a monument to the prowess of the College boys in the field. In regard to the College hostel to which the Principal had referred 'as in imagination already built and occupied,' he could assure them that it was no figment of the imagination. By the courtesy of the Diwan and by the gracious kindness of H. H. he was privileged to announce that the building was to be taken up at once.

He concluded with an eloquent appeal to the students to make themselves, in the words of the Proclamation, qualified 'by their education, ability and integrity, for responsible posts in the Public Service and thus co-operate with Government in their administrative work.'

The proceedings terminated with three hearty cheers for the King-Emperor once again, for H. H. the Rajah, and for the Resident.

The Committee state "Mere want of room is the controlling factor in this educational problem." Government have called for a scheme and estimate for the training college, but otherwise take no action as since the Committee was appointed the Municipality have assumed sole responsibility for primary education.

Miss Peroja Byramji Malbari, after prosecuting studies in England as an eye-specialist, has returned to Bombay. She is the first Indian lady eye-specialist. Having proceeded to England in 1905, she won the Miss Croper Scholarship and joined the Glasgow Medical College, where she studied for three years and passed its medical examinations with distinction. Miss Peroja afterwards joined the London Eye Hospital.

CALCUTTA.

THE Inspection Report on the colleges affiliated to the Calcutta University has been published together with a note by the University Inspector for improving second grade colleges. Reporting on the Presidency College, Calcutta, Drs. Thibaut and Roy recommended as follows:—"The time has now come for the Presidency College to be transformed into a University College and to receive a new start. The University requires a model college—a college that has an ideal constitution and organisation and that teaches all its courses of study up to the highest standards. The regulations of the University will be inoperative and the various courses of study it prescribes will remain untaught unless there is at least one college richly endowed and properly constituted and organised to teach the subjects. The only college which can occupy this position in relation to the University is the Presidency College, and this college should be, as we have suggested, placed under a strong and competent representative governing body with a comprehensive constitution and a permanent annual grant by the Government. A University College organised on the lines of the University College in London is a necessary complement to the new University of Calcutta. Such a College is greatly needed in order to realise the underlying ideals of the University, and can be brought into existence only by an act of the Council of the Government.

THE Secretary of State has appointed Miss E. A. Garret as an Inspectress of Schools in Eastern Bengal and Assam.

At a meeting of the Executive Committee of the Behar Landholders' Association, the Maharaja of Darbhanga presiding, it was resolved that funds be raised and the Association co-operative with other public bodies in Behar do raise a memorial to Sir Andrew Fraser in the shape of scholarships to encourage education amongst Beharees.

It is reported that Mr. Surendranath Banerjee is making over the Ripon College to a body of Trustees. Mr. Banerjee will continue his lectures to the students.

THE Pabna Moslem Educational District Conference met recently. About one hundred mofussil delegates and some town delegates assembled. The Private Secretary to the Hon'ble Nawab Bahadur of Dacca read letters of sympathy from the Chief Secretary, the Commissioner and the Director of Public Instruction, the last subscribing fifty rupees to the funds for spreading Mahomedan education.

The first resolution proposed to start a District Mahomedan Educational Fund and establish a District Educational Committee, with power to frame rules for its guidance. Maulvi Abulmamud, in moving the resolution indicated some ways of raising funds, prominent amongst which was musti—that each Mahomedan family should set apart a handful of rice when cooking their food. A large number of speakers seconded and supported the resolution all of whom strongly exhorted Hindus and Moslems to co-operate with each other.

In the Agenda paper 6 resolutions were put for the day; but the first having taken up the whole day the rest were put off.

The Conference reassembled. Fourteen resolutions were carried. The important ones among them enjoined: (1) obligations on all Mahomedans to educate their children (2) examinations in primary and middle schools to be made by inspecting officers; (3) an English department to be added to the Sirajganj Madrassa and its conversion into a Government Madrassa; (4) Government support in the matter of constructing a boarding house at Pabna to accommodate fifty Mahomedan students; (5) Middle Madrassa like those at Dacca to be established in the Rajshahi division; (6) Female education to be encouraged and spread amongst the Mahomedans; (7) Sufficient funds to be set apart for spreading industrial and commercial education, and (8) Government scholarships to be given for the same.

In the resolution there was a prayer to permanently locate a 'Mahomedan' Deputy Inspector at Pabna. It was objected to by Babu Gopal Chandra Saha on behalf of the Hindus. The President amended the resolution by substituting Arabic and Persian knowing for the word 'Mahomedan.' The resolution thus amended was accepted.

THE Secretary to the Calcutta Trades Association has addressed to the Secretary to the Government of Bengal, General Department, the following communication in reply to the request to be furnished with the opinion of the Association as to the industry which should be selected for encouragement during the coming year in connection with the scheme of State technical scholarships introduced

by the Government of India. In furtherance of that scheme the Association in March 1908 proposed that a scholarship should be awarded in connection with the Mining industry, and the Committee of the Association notice, from the letter under reply, that effect was given to that suggestion. They would recommend for the reason advanced in their first letter, viz., the rapid expansion of the Mining industry in India, that this industry be again selected for encouragement in the coming year. The Committee further recommend that applications be also invited for a scholarship in connection with the subject of electrical engineering. In their opinion the training obtainable by an Indian electrical engineer in this country is not sufficient, he may have theoretical training in a Government College, but the so-called practical training he receives is almost useless. The only place in which he can possibly hope to acquire this indispensable experience is in a business workshop in England where real and not amateur work is done, where the quickest and most efficient methods obtain, where young engineer is made to work and to see how work is done, and done economically.

A MAHOMEDAN Girl, Miss Sofia Kazim, who had passed the Entrance Examination, has been granted by the Bengal Government a special scholarship to enable her to pursue her studies.

THE Government of India have now formally sanctioned the scheme for the establishment of the model Law College in Calcutta. The approval of the Secretary of State not being necessary, the necessary decision has already been communicated to the University.

It is also understood that the Bengal Government is desirous of establishing a Law College at Bankipore and Sir Lancelot Hare proposes to have another at Dacca.

The Maharajah of Kasimbazaar has expressed his intention of opening a College at Berhampore.

The proposal for opening a Law College at Cuttack has not been matured, and it may be taken for granted that facilities will be afforded to students from Orissa for their studies in Calcutta.

THE annual report of the National Medical College notes with satisfaction that the Lieutenant-Governor was in favour of a properly equipped National Institution. The official colleges were not able to turn out a sufficient number of medical men. In Bengal alone there was only one qualified doctor to 11,000 of the people. The College had received the patronage of the Maharajas of Baroda and Mysore. Distinguished men like the Hon'ble Sir C. M. Ghose, Kt., Officiating Chief Justice, Mr. Lajpoot Rai, the Hon'ble Jogendra Churn Ghose and Mr. G. K. Gokhale, c. i. z., had visited the College. His Highness the Maharaja of Baroda had donated Rs. 2,500—there were also minor gifts. An appeal has been issued for Rupees one lakh and thirty thousand for equipment and endowment. Tutorial classes for backward students and a special

class for bed-side teaching have been established. Next L. M. S. (Nat.) Examination will be held in December at Madras, Bombay, Agra and Lahore provided there are 30 candidates at each centre. These examinations are conducted not only by the College professors but in each subject there is an outside examiner. This is an institution for all India which all India ought to support.

PUNJAB.

CAPTAIN Mackenzie, I.M.S., Civil Surgeon, Simla, is appointed Professor of Pathology. Lahore Medical College pending the appointment of the permanent incumbent.

At a meeting of the Syndicate of the Punjab University a letter from the Honorary Secretary of the Anglo-Indian Temperance Association, London, seeking the co-operation of the Senate of the University in the work of Temperance in India was discussed. The general feeling of the Syndicate being that no special action was necessary to promote Temperance in Indian colleges, that body did not see its way to the proposals made. It was decided, however, to forward a copy of the letter to the Principals of the Colleges affiliated to the University with reference to the proposal that a lecturer deputed by the Association might be allowed to address the students once a year on the subject of Temperance.

THE Syndicate of the Punjab University has appointed a Sub-committee of four members, including the Registrar, to make recommendations relating to the distribution of the grant of Rs. 20,000 made by the Government of India among affiliated colleges. The distribution will be made on the understanding that no grant will be paid to either colleges maintained from Provincial revenues or Law and Oriental Colleges, which are maintained by the University with the help of special grants-in-aid from the local Government. During the past four years, in distributing similar grants made by the Government of India, the Syndicate has proceeded on the principle that for every rupee that a college gets out of this grant the management must find two rupees from its own resources. Another principle kept in view by the Syndicate has been that the grant should be made only for a specified object, viz., additions either to the buildings of both the colleges and the hostels or to the equipment for teaching. At the end of the current year the total amount distributed by the Syndicate in the Punjab among its affiliated colleges, since the reorganisation of the University in 1904, will exceed one lakh of rupees. Liberal grants have been made during this period to the University from the Imperial revenues, not only towards the establishment of a really well-equipped University library, but also to enable the Senate to pay for the inspection of affiliated colleges, and travelling allowances of Fellows and Syndics residing outside Lahore who have to come to Lahore to attend the meetings of the University.

SIR Louis Dane, Chancellor of the Punjab University, has decided to give the graduates of the Punjab University the right of voting for election of Fellows in accordance with the Universities Act and a Sub-Committee is now sitting to frame rules for election and register of graduates.

UNITED PROVINCES.

KHAN Bahadur Sardar Yar Mahomed Khan, C.S.I., Minister of Jaora State and Trustee of the Aligarh College, who, some months ago, permanently transferred his hereditary State pension in favour of the Aligarh College, has now contributed the munificent donation of Rs. 40,000, with which the Trustees propose building a separate block in the Minto Circle, which is a group of boarding houses under construction to provide much-needed accommodation, the rent realised from which will be devoted to other educational requirements.

THE United Provinces Government has decided to send a limited number of approved students to the Bengal and the Punjab Veterinary Colleges as scholarship-holders, with a view to their qualifying for appointments in Subordinate Veterinary Service in the provinces.

PROFESSOR Ramamurti, the well-known Indian athlete, was presented a gold medal by the students of the Canning College as a mark of esteem.

THE Government Agricultural School at Cawnpore which ceased to exist as such in the spring of 1907, now occupies the status of an Agricultural College, and its students are going through a college course. According to the latest official intelligence the permanent buildings of the College and Laboratories are progressing; the hostel accommodation is practically complete, the dining hall and kitchens are under construction, and sanitary arrangements on modern lines will soon be installed. A model dairy is at work and the College possesses adequate facilities for outdoor instruction and for recreation. The Indian instructional staff is almost at full strength, while the principal officials have been devoting their time largely to the detailed organization of the courses of instruction. The view of the Director of Agriculture in the United Provinces is that a residential agricultural college in this country must be much more than an institution where technical instruction can be obtained and his opinion is that the collegiate side is in its initial stages more important than the agricultural, that is to say, the most pressing problem just now is to create a social organism with a healthy life and tone. It is not an easy problem to dispose of, but the official view is that the Cawnpore College has started on the right lines and that it promises to supply the class of diplomats that is wanted, gentlemen with minds trained in the agricultural sciences, with a practical knowledge of the needs of

the cultivator, and accustomed to rely on their eyes and ears rather than on what is found in books.

At the annual meeting of the Senate of the Allahabad University the following members were balloted out in accordance with the Universities Act:—Messrs. Ward Cameron, Piric, Venis, Chakrabartty, Aftabahmud, Edwards, Abdulmaziid, Mahomed Latif and Ram Saran Das. Messrs. Ward and Cameron, who were originally elected by the Senate, were re-elected. The other gentlemen, who were nominated by the Chancellor are eligible for re nomination. Subsequently, Mr. Drankely of Agra was elected to the Senate by a meeting of the Faculty of Arts.

INDIA (GENERAL).

THE Secretary of State has appointed Mr. Eustace Alberic Macneif (Cantab) to the Indian Educational Service as Professor of English in the Morris College, Nagpore.

THE Mahomedan Educational Conference will hold the sessions at Amritsar in Christmas next under the presidency of the Nawab of Dacca. Resolutions about the constitution of the Conference, organisation of committees in every district in India and affiliation to the Central Standing Committee at Aligarh will be passed. An appeal will be made for funds to found scholarships for Mahomedans studying in Teachers' Training Colleges. After the close of the Conference, the annual meeting of the All-India Muslim League will be held under the presidency of the Imam of Bankipur.

It is notified that the examination for the appointment in the lower division of the Secretariat Clerical Services of the Governments of India, Bengal, U. P. and the Punjab Secretariats will be held in Calcutta, Allahabad and Lahore, beginning on Saturday, 9th January 1909. The probable number of vacancies for the Government of India Secretariat is four, two of which are reserved for candidates from Upper India. The probable number of Bengal vacancies is seven, of which two have been reserved for domiciled Europeans and Eurasians. There will be no examination for Bengal and India appointment in 1910.

MR. Surenda Ghose, an ex-student of the Rangoon College, proceeds to England by the B. I. S. N. Co.'s steamer *S. S. Goleonda*, under the auspices of the Association for the Advancement of Scientific and Industrial Education for Indians, to learn the process of tanning of hides. He will join the University of Leeds to take his B. Sc. degree. His father is a retired District Engineer of Noakhali and is now a resident of Bhagalpur. After his training in England, Mr. Ghose will proceed to Bostock, U. S. A., and thence he will come to Germany to complete his technical education in tanning of hides.

MR. Dalal has, in fact, repeated the triumph achieved by Mr. Panna Lal in the final examination of last year. Passing third in the Open Competition, he has taken the first place in the Final, and stands first of his year on the results of both examinations. His destination, we learn, is Bombay. The other Indian civilians have been posted as follows: Mr. D. D. Nanavati to Burma, Mr. P. C. Dé to Lower Bengal, and Mr. J. R. Krishnamma to Madras.

Foreign Notes.

GREAT BRITAIN.

MR. G. D. Oswell, Principal of Rajkumar College, Raipur, has prepared four volumes of "Sketches of Rulers of India" for use in schools and colleges. The well-known Rulers of India Series has been laid under contribution for this purpose, and the biographies are grouped for convenience in study. Mr. Oswell's books will be published by the Oxford University Press immediately.

MISS Gertrude Holland Wren, a girl of twenty-two has been awarded the Percival Medical—the annual "blue riband" of the world of pharmacy, at once the most coveted and most hardly won reward of technical knowledge. There was great cheering from the excited students assembled in the ancient hall of the Pharmaceutical Society, London, as the President, Mr. Young, made a presentation unique in the annals of the Society. Upon the wall above the President's head was a tablet of marble with the names of the winners of the medal since 1861. In bright gold letters against the year 1908 were the words: "Wren Gertrude Holland": "the first woman's name upon the scroll. Mr. George F. Morell whom this girl competitor had defeated by a narrow margin, was one of the leaders of the cheering. This is an historical, a record-breaking, a never-to-be-forgotten incident," declared the President. "Wherever women have had an equal chance with men—in science and letters, even in commerce—they have more than held their own. Who knows but that we may now have a woman upon our Council itself? And, granting the possibility of a woman councillor why not a Woman President?" Miss Wren has been a student at the Pharmaceutical College for four years, working daily from ten until six, and then taking problems away with her to pore over in her study at home.

THE association founded last year, under the presidency of Mrs. Besant, to help by friendly counsel and social introductions students from India on their first arrival in Great Britain, has published a list of the committees formed in London and the districts of Bradford, Manchester, Cambridge, Southampton and Edinburgh. The association assists students to find proper accommodation, advises with regard to the profession, business, or special education for which they have come to Great

Britain, and extends a friendly supervision over those whose parents desire such protection for their sons. The Social Committee consists of ladies living out of London, who will from time to time invite young Indians for week-end visits and give them an opportunity of seeing English home life. It is proposed, if funds permit, to open a residential club for the reception of a limited number of students.

SIR Francis H. Lovell, C. M. G., Dean of the London School of Tropical Medicine, is coming out to the East to study the diseases prevalent in India, Ceylon, the Straits Settlements and Hong Kong, and the best treatment for them.

THE Bhaunagar Medal at Cambridge University has been awarded to Mr. Ardeshir Rustomji Dalal, B.A., of St. John's College. The medal, which was presented by the Maharaja of Bhaunagar, is awarded annually to a selected candidate for the Indian Civil Service who, having passed one of the honour examinations of the University and having also spent his year of probation at Cambridge, shall stand highest in the final list of selected candidates.

The Libraries of London is the title of a useful guide for students written by Mr. R. A. Rye, Goldsmiths' Librarian in the University of London, and published by the University. It is divided into three parts: "General Libraries," "Special Libraries," and "Libraries connected with Educational Institutions," and gives much information as to the libraries included under each heading—their situation, scope, history, and the conditions on which readers are admitted.

At the last meeting of the London University Senate it was announced that the County Council had offered an annual grant of £500 in aid of the classes at King's College, on the subject "More encouragement for English teaching."

THE increase of university students is remarkable. Of the national universities, Cambridge beats its previous best year, Oxford shows no falling back, and London progresses fastest of all. At the same time the provincial universities are pleasantly engaged in breaking their own records annually. The three-year-old university of Sheffield, for example, has nearly six hundred under-graduates this term—seven of them from China, and others from Hindostan, Persia, and Egypt.

AMERICA.

THERE will soon be Bachelors and Masters of Flying in Columbia University, U. S. A., which has just added to its curriculum a course in Aeronautics. The authorities of the University intend purchasing a large tract of land on Long Island for the purpose of conducting experiments.

The Educational Review.

At the Fourth International Congress of Mathematicians held at Rome M. E. Picard read a very interesting paper on the *Relations between Mathematics and Physics*, in which the writer laid stress on the close connection that has existed between mathematics and physics from the remotest times when, as with the Egyptians and Chaldeans, mathematics had a character, purely experimental and utilitarian. In the seventeenth century the development of kinematics and dynamics gave a strong impulse to mathematics and it may even be said that mathematical analysis is really the child of mechanics. "The origin of the concept of a differential is to be found in the confused idea we have of the mobility of things and the greater or less rapidity with which phenomena occur." During this new period the history of mathematics is, in all its essential points, identical with that of mechanics. By various examples M. Picard has shown the mutual relations between mathematics and physics. A period of induction is succeeded by a period of deduction, in which the endeavour is made to give a precise form to principles. Physics incessantly poses new problems, and under its influence the disciplinary principles of the mathematical sciences become organised, and these, in their turn, give, by the clearness of their language, a precise form to ideas which, without them, would be vague; further, by their power of transformation they often enable us to bring to light new facts. It is therefore the external world that has guided us in our analytical researches, and we can venture to assert that it would be the same also in future. Hence the true place of the mathematician is by the side of those who are

engaged in the study of nature. Nor can the student of nature unlock all its mysteries without the keys furnished by mathematics.

At the celebration of the fiftieth anniversary of the opening of the University Museum in Oxford, Universities. Dr. Warren, the Vice-Chancellor of the University, delivered an address which must be encouraging to those who insist on giving a high place of honour to science among the branches of learning cultivated at the Universities. "Some few years ago," said Dr. Warren, "I remember Professor Lankaster complaining that our statesmen and public men generally reared in our public schools and at the old universities were insensible of and indifferent to the claims of science. I think that while he spoke strongly, as he often does, I think he also spoke as he not seldom does, even when he speaks strongly, with reason. This ought not to be the case. It is the scientific attitude and frame of mind, the scientific outlook on the world, as a part of general culture, which is, I think, what is wanted in education to-day. The real lessons of science do not, I think, consist in knowledge of facts. They consist in the recognition of the importance of truth, of absolute scrupulous accuracy in matters great or small; that nothing happens without a cause and without a consequence; that matter, however mutable it may be, is indestructible; that the same elements, or many of them, as are found in our earth may be found, for instance, in the sun, and probably pervade the universe; that energy in the same way is imperishable; the general scientific conception of force, of atoms, of gravitation, of resistance, of mass, of proportionate combination, and of the methods by which

these truths were discovered and can be again demonstrated—these are the things which ought to be part of our common heritage and knowledge." We should like to see science as an element of general education in all Indian schools and colleges. The education in our schools and colleges is at present too literary. We do not despise literary studies. We think that these are absolutely necessary but to be productive of real good they must be coupled with scientific studies. Not that the amount of knowledge which the individual student would acquire would be of immense value, but that he would to some extent imbibe the spirit of science and not always be breathing the atmosphere of letters. The achievements of science have in the last hundred years revolutionised life. A purely literary education suited to the period of the Renaissance can not be in harmony with modern needs. Every Indian must become acquainted with the methods and conclusions of science, if he is to take part in the struggle to secure the most satisfactory intellectual, economical, social and political status for his motherland.

A well-known public-spirited Indian gives the following characteristic description of the Anglo-Indian teacher. "The Anglo-Indian teacher treats his pupil as his subjects, upon whom he can freely use his rod. The spirit of free co-operation, of loving friendship, of mutual confidence, of generous comradeship is wanting in him. He wants to play the tyrant as much as the administrator. The unrest amongst the students is due to the same causes as the unrest in Indian public life. In the West there is a growing tendency on the part of the school-masters to appeal to the love of their pupils

by generously forgiving their faults; by trying the remedies of moral persuasion for the curing of moral ills, and by helping in a true spirit of comradeship in the bringing out of the best in the boy and the girl. It is the same in public life. In Indian schools and colleges, headmasters and teachers, principals and professors shower all their favours and show their partiality for students who are cringing in their manners, who display a spirit of complete dependence and implicit obedience, and learn their lessons just as the master wants them to do or to put it in one word, those who are *parasites*. The school-master in India never encourages spiritedness in his pupils. He frowns at any display of boldness. Boldness and independence, in thinking and studying, is as much disliked and put down as courage outside the school. The want of courage and manliness he calls goodness and gentleness; the contrary he calls rowdiness. The result is that he fails to produce men and succeeds in producing machines. The boys pass the examinations very well but they lack in originality, in boldness of conception and execution, and capacity to withstand difficulties and trials. They are very useful clerks and Deputy Collectors, but they are no good as leaders. They can serve as creatures, but they can create nothing. They are cringing in body as well as in soul. Boldness never comes near them. They are afraid of shadows of coming trouble. They can calculate profit and loss to fractions of annas and pies, but they can never rise above them. They can earn the goodwill of their superiors by being their willing tools and useful instruments, but they can never inspire respect and confidence. They are creatures of rules and regulations, incapable of making them or

of improving on them, and they spend their lives discussing and following the letter of the same. The result is that they can never strike when it is hot. They wait for instructions from above, for minute guidance and for orders. They are good machines, but they are no good as makers of machines. The Anglo-Indian school-master cries for discipline. He knows only one word. He repeats it like a parrot. He does not know a word of the philosophy of true education. He is an absolute stranger to child-study. Love, regard and trust never enter into his methods. He can not be a *friend* of his pupils. He is always a *master*. Hence his signal failure as a model for young men. Young men trained under this system can not even admire his virtues." We very much wish we could controvert this description of the Anglo-Indian teacher and the results of his work, but, barring a few noble exceptions, the description tallies so closely with the true state of affairs that we can not help expressing our concurrence with it.

We are glad that the High Court of Madras has recognised the prime importance of maintaining Pachaiyappa's College as a first-grade college, and has placed it on a regular footing in the new scheme. The constitution of the Board of Trustees appears to be satisfactorily settled. Two trustees are to be nominated by the Hindu Fellows of the University, two by the Hindu members of the Corporation, one by the Hindu graduates of the College, one by the staff of the College, and the remaining three by co-optation. To prevent the undue predominance of any one community in the Board it is provided that vacancies filled by co-optation shall be filled in such a manner as

not to result in giving any one community more than four seats on the Board. One point seems to have escaped the attention of the Court. While the scheme lays down that only the Hindu Fellows of the University, the Hindu members of the Corporation are qualified to be electors, no special qualification is prescribed for the members of the teaching staff of the College. It would look anomalous that the non-Hindu members of the College staff should be permitted to vote in the election of the College representative on the Board of Trustees. One question of importance has not yet been given a satisfactory solution. We think that it is absolutely necessary to have a College Senatus, consisting of all the members of the staff. The principal should have no arbitrary powers, and in all matters of internal management he must be guided by the rest of the staff. The right of making minor appointments should be vested in the College Senatus, subject to confirmation by the Board. We hope that the new scheme will result in much benefit, and it will give us pleasure to learn that the College will soon be adequately equipped and placed on a footing of equality with the other first-grade colleges in this presidency.

The first of the series of lectures on National Education, organised by the Fabian Society, was delivered last month by Professor M. E. Sadler. The subject of his lecture was "The State's aim in education under present conditions in England." By the nature of things education is quasi-public, quasi-private affair. It is not the sole concern of the family, or of the individual, or of the religious body, or of the State. To work out a just synthesis

between the claims of these four factors is at the present time the pressing task of the statesmen of every country. So great is the influence exerted by education over the moral and social ideals of the rising generation that the State fears to allow the work of teachers and schools to pass wholly outside the limits of its watchful care. But the kindly ray in all education proceeds from the personality of the teacher, and this is most potent in its influence only when the teacher is free to live with intense reality and candour of conviction his own spiritual and intellectual life. At the core of all that is worthy of the name of education lie the spiritual forces which give to human life its deepest significance and reveal its true meaning. In order that these spiritual forces may find opportunities for influence, the teacher must be free to teach what he believes, subject to self-imposed reserve in dealing with the half-developed thoughts and aspirations of his pupils, and subject also, so far as the publicly organised system of education is concerned, to such regulations as may be necessary to secure smooth working in the machinery of schools. Professor Sadler, therefore, urged that the State would be unwise in its own interest to aim at any of the following points: (1) the establishment of a Government monopoly in issuing leaving-certificates for pupils in secondary schools, seeing that such a system tended unduly to concentrate the efforts of teachers and pupils upon those studies which could be conveniently brought to account in written examinations; (2) the organisation of the teaching profession as a branch of the Civil Service, for, while teachers benefited by public supervision, their individual initiative could not be encouraged without a degree of free-

dom which the administrative rules of the Civil Service might perilously impair; (3) the attempt to compel all the children from the different strata of the population to pass through the same type of the elementary school, because compulsory mixing of children in day schools from various types of home would defeat rather than further the purpose of social unity by placing many of the most careful parents in opposition to such a policy; or (4) the substitution of a universal system of secular education in place of a variety of types of schools, as only by means of the latter freedom of utterance would be possible for the ineradicable convictions of different groups in the community. In the opinion of the lecturer the chief points that should be aimed at by the State under the present conditions in England were the following: (1) great reduction in the size of the large classes in many public elementary schools, in order that the teachers might be able to give more individual care to the different pupils; (2) careful medical inspection at sufficiently frequent intervals of all school children with a view to securing the physical development of the rising generation, parental duty in the care of children to be stringently enforced, with liberal aid in cases of need; (3) generous provision of playgrounds, under skilful supervision, with a view to encouraging a healthy corporate life in all schools; (4) the raising of the present age of exemption from school attendance throughout the country first to thirteen and then to fourteen years of age; (5) the abolition by statute of the half-time system in the textile districts; (6) the provision of various forms of educational care for young people during the critical years of adolescence; and (7) the laying upon all employers of a statutory

obligation to enable their younger work people, up to seventeen years of age, to attend courses of suitable instruction, provided or approved by the local authority of the district and held at a time of day which would prevent those attending the classes from suffering from overstrain of body or of mind.

The Convocation of the University of Allahabad was held this year on the 14th instant. The address to the graduates was delivered by His

Honour the Lieutenant-Governor as the Chancellor of the University. The address is noteworthy in various respects and may be regarded as a valuable contribution to the discussion of various educational questions affecting India, as Sir John Hewett was a member of the Indian Universities' Commission and is therefore well acquainted with matters relating to Indian education. The Universities' Commission recommended that text-books in English should not be prescribed for the Matriculation examination, that the course should be described in general terms, a list of books being given by way of illustration, and that the list should consist chiefly of descriptive and historical books and should be so long as to preclude the possibility of their being committed to memory. The Chancellor regrets to find that the University has not conformed to this recommendation. We are sorry to say that the University of Madras is a greater sinner in this respect, as it not only recommends a small number of pieces but also publishes a text-book with a view to make profit. Rightly does Sir John Hewett take objection to prescribing such books as *Tom Brown's School Days* to Indian students. The aim of teaching English to Indian students

should be to enable them to acquire a practical knowledge of the language. A good deal of time and energy is wasted in getting by heart the contents of such books as Morris's *Historical Accidence* and Stopford Brook's *English Literature*, however useful these books may be to specialists. The Committee of the Madras University which is considering the question of vernacular composition in the Intermediate Examination would do well to ponder over the remarks of Sir John Hewett on the same subject. The Universities' Commission recommended that the study of the vernacular languages should be encouraged at each stage of a University student's career; they urged that every boy should, on the completion of his school course, be required to pass an examination severe enough to show that he had a knowledge of his own language sufficient to enable him to express himself with ease and propriety. They recommended that vernacular composition should be made compulsory in every stage of the B.A. course, although they did not consider that there need be any teaching on the subject. It is but meet that this recommendation should be carried out by every Indian University. We are glad to find Sir John Hewett urging that the Indian Universities are essentially Universities of the people, and that, if they are to fulfil their purpose, they must provide courses of instruction suited to the many-sided activities of the Indian people, the development of which alone can be relied on to ensure continued prosperity to the country. He wished to see the Indian Universities play a great part in helping forward the industrial expansion of the country and thus become the chief agents in producing prosperity and contentment. The Indian student will surely feel thankful to Sir John Hewett for condemning

the accusation of immorality—made against the Indian student in general as a gross libel and falsehood.

In his *Principles of Teaching* Professor Welton condemns some of the methods in vogue in the elementary school. The traditional custom in elementary education of placing every class in charge of a teacher who shall teach all the subjects it has to learn has been productive of more harm than good. The result is that the work done in the elementary school during the precious formative years is not sufficiently interesting, because the teacher, speaking generally, is not sufficiently interested in it. The teacher is content with presenting a few bald facts, often taken directly from a ready-made series of "notes of lessons." "The inevitable result," says Professor Welton, "is the very common failure to awaken any real love of learning among the pupils. Nothing is more obvious to the thoughtful observer than that the teaching in a primary school will be wanting in effectiveness and success so long as the fullest use is not made of any special knowledge, enthusiasm, or aptitude which may exist among the members of the teaching staff. Surely the time has come when it should be recognised that the ideal of knowledge for the English primary teacher is no longer to be "jack of all trades and master of none." He should at least be master of one, and should have acquired such an appreciation of the true relation of knowledge to teaching as a mere smattering of many subjects never can give. "It is not that every teacher ought not to have some knowledge of each subject that is involved in the claim that every scholar should study them, for the teacher is first a scholar. But this general

knowledge is quite inadequate for stimulating and fruitful teaching. No one can do good educative work in any subject of which his knowledge is not copious and for which he has not a real liking, if not an actual enthusiasm. And no one can have a stimulating enthusiasm for everything." This principle seems to be followed to some extent in America. In the city of New York and other places there obtains a system, known under the name of "departmental teaching." The chief features of this system are the following. Each teacher in an elementary school instructs in one subject or in one group of related subjects. Each subject, or group of allied subjects has its own class room to which the pupils repair for the lesson in question. The educative variety of new teachers, new studies, and new rooms tends to keep wholesome thoughts ever present. By means of expert teaching the curriculum is enriched by being made interesting and stimulating at the same time. At present the elementary school-master in India is a sorry specimen of a teacher and there is nothing attractive in the elementary school to draw intelligent men. No school which does not possess inspiring teachers can give children a good preparation for life.

The report of the International Inquiry into Moral Instruction and Training in Schools has been published in two volumes. There is an immense number of papers, and for want of space some have been condensed. The thanks of the educational world are due to Professor Sadler for preparing these two compilations. The official introduction is guarded and somewhat indecisive. On the whole the opinions of the writers lean more towards theology than humanism. The opening chapters deal with

the "roots of the problem." Dr. F. H. Hayward strenuously defends moral instruction from the charge of being dull and prosaic. Professor Findlay fears that the methods of the Moral Instruction League will entice children to delight in stories divorced from practical discipline. Mrs. Sophie Bryant mingles philosophy with the life and sayings of Jesus. Professor Muirhead desires the introduction of courses of lectures on "moral philosophy or moral theology," including the Bible. The Rev. Michael Maher, S.J., of Stonyhurst connects all moral issues directly with the will of God and Church discipline. Among the humanists we find Professor Alfred Fouillée emphatically declaring that "morals ought to be taught at every stage in the course of study in all schools and colleges in a form independent of all religious beliefs." Baron Kikuchi, formerly Minister of Education in Japan, gives an account of the moral training in different grades of Japanese schools, and Dr. K. Yoshida furnishes useful summaries of courses of lessons. We believe that neither religious instruction nor direct moral instruction would be productive of much good. Nor do we advocate the claims of this or that subject as a means of moral education. The moral culture of a pupil will largely be determined by his environment and may be regarded as coming from within himself, and every subject will furnish a basis for moral training, if his teachers possess the necessary aptitude, sympathy and character. It is the character of the teachers and the spirit in which they occupy schools and class-rooms which determine the efficacy of all educational schemes, courses and methods. If the teacher does not loathe the vileness, is not good, loving and kind, no moral text-book and no moral lecturing, however eloquent can produce any

beneficial effect. The ultimate lesson which a man can teach is himself.

At the early stage of education mental training and the formation of accurate habits of observation, of description and of reasoning are of far greater importance than the accumulation of facts or the ability to answer examination questions on these facts. The achievement of these ideals must be the chief aim of all teaching of elementary science. The didactic method of instruction in vogue in our schools can not achieve these results. The only natural method of gaining a knowledge of scientific facts is the method of experimental inquiry. The method of instruction must therefore endeavour to bring the pupil face to face with natural phenomena and make him investigate them for himself. Hence no school course can be considered complete without, at least, two years' practical work on science. This is the emphatic opinion expressed by the Educational Sub-Committee of the British Association at this year's meeting. For exemplifying the experimental method of inquiry physics and chemistry offer more advantages than botany and zoology. Such simple subjects as the effects of heat on matter, fluid pressure, the composition of the air, the effect of air on plants and animals, must naturally precede any intelligent study of plants and animals. Is the practical work in schools to follow the subject method or the heuristic method? An inspector of secondary schools reports that "it is rare to find, even in schools when the heuristic method is most successfully taught, that boys can apply the method learned in previous problems to a new question, even of a related kind." The subject method would seem to be the more rational one for the lower stage. An important question in connection with laboratory work is whether a

Laboratory work in schools.

class should be taken through its laboratory work with all the members doing the same experiment at the same time or whether different students may be allowed to do different experiments at the same time. All who have had any experience of laboratory work concede that the first is the only practicable course, especially when the classes are too large for the teaching power. But some object to it on the ground of its great expense. This objection can have no force. The outlay of money for twenty or thirty students cannot be very large, as the apparatus for school use must be simple and convenient to handle. A set of apparatus should be provided, if possible, for every two pupils in the laboratory. In some cases four pupils may be grouped together to perform an experiment. Elaborate furniture and equipment is not necessary for a science work-room in a school. Plenty of floor space and strong tables provided with cupboards underneath for general storage are all that are needed. No shelves on the tables are necessary. Two or three large sinks on the walls of the room should suffice. The laboratory itself can be used as the lecture-room if it is provided with a demonstration table and a few forms.

Certain qualifications seem to be absolutely necessary to belit one for the proper teaching of geography. As geography is a science, only one who has had a scientific training and possesses a good knowledge of scientific principles could prove a good teacher of geography. He must be skilled in the art of blackboard drawing, and must have some practice in photography. He must be well read in geographical literature. To make his subject useful he must be on the look out for opportunities and trying experiments. Very few of the teachers of geography in Indian

schools seem to possess these qualifications. It is no wonder that the pupils of our secondary schools find the geography lesson extremely dry. We hope that at least the lecturers appointed by the Madras University to deliver lectures on geography to teachers of secondary schools possess these qualifications so that they may do justice to the work entrusted to them and serve as models for others to imitate.

We are glad to learn that the representatives of various teachers' associations in South India recently met at Madras for concerting measures to start the long-desired general association for all teachers of South India. A provisional committee has been appointed to frame the necessary rules, to be presented for adoption at the Educational Conference to be held next month at Madras. We hope the teachers will muster strongly at the next Conference and make it a success. A professional *esprit de corps* is sadly lacking among the teachers of South India, and their voice is rarely heard among the powers that be. One aim of the newly-started South Indian Teachers' Union should be to make the teaching profession a powerful and highly respected organization.

In an article contributed to *The Asiatic Quarterly Review* Professor James of the Presidency College of Calcutta endeavours to disabuse the English people of two common fallacies concerning the educational policy of the Government of India. The general impression in England is that higher education has been forced upon an unwilling people in India. Professor James, on the other hand, points out that the Government and those who co-operate with it have been merely supplying a natural and

The teaching of geography.

creditable popular demand. Some are questioning the wisdom of imparting instruction to the Indian youth through the medium of the English language. If by higher education is meant the imparting of the best scientific knowledge of the day, there can be no more suitable medium than the English language. "We teach nothing" says Professor James, "but such things as the East and the West agree to call good—integrity, truthfulness, courage, self-reliance, the capacity for action, on the one side; and on the other, order, regularity, punctuality, obedience, self-control, the capacity for discipline." He grants that much of the work done may be imperfect and that much of the education imparted may be incomplete or misdirected, but the natural remedy, he thinks, would be not less education but more education and of a better type. The charge frequently brought against higher education in India that it has really proved a failure Professor James refutes by pointing to the attainments of the

Indians in medicine and law; to the beginnings of research in science; to associations for practical business, social life, education, literature and science; and to the men of modern learning who can meet Europeans on equal terms on the Bench, in the Law Courts, in the Senate House, in the Legislative Council, and in every walk of life.

We note with much regret the death of Sir V. Bhashyam Iyengar, the most brilliant legal luminary of South India.

The late Sir V. Bhashyam Iyengar. He was for many years a Fellow of the Madras University and a member of its Syndicate, and the guiding spirit of its Faculty of Law. Not only as a member of the Council of the Law College but also as Professor of Law for some time in the Presidency College he was directly connected with education in this presidency. His name will be long remembered in this presidency.

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THE MILTON TERCENTENARY.

THREE hundred years ago, on the 9th December 1608, a child was born in Bread Street, Cheapside, London, that was one day destined to rank with the world's greatest masters of song. One is disposed to imagine that Shakespeare, Ben Jonson, Beaumont and Fletcher swept by the boy-Milton playing in the London Street, on their way to the daily revels of wit at the *Mermaid*. A few years passed and a star of the first magnitude had appeared in the literary world which was soon on its way to an eternal fame. Three centuries of critical examination and judgment has only tended to confirm the poet in his exalted place of equality with the master-poets of any age or country. The literary taste of English readers, at the present day, whatever transformations it might have undergone during all this period does not grudge the reputation and popularity which his works deservedly enjoy. It may be asserted without any fear of contradiction, that next to Shakespeare, among all English poets, Milton has the greatest amount of popular homage and appreciation. His works are names to conjure with the lover of poetry and they have contributed not a little to the cultivation of the poetic tastes of millions of English readers all over the world.

XIV

The appellation of 'poets' poet' which was granted by Charles Lamb to Spenser might be applied with equal justice to this "mighty-mouth'd inventor of harmonies" who has moulded the minds of successive generations of English poets. His claim to worship by all votaries of poetry has been acknowledged in the most grateful terms, by almost every singer of any distinction who has achieved a permanent place in literature, since his death. Dryden's enthusiasm for his genius was so great that he acclaimed him the greatest bard the world has seen, giving him a place above Homer and Virgil; Gray sang the praises of the poet that "rode sublime, upon the seraphic wings of ecstasy" and "passed the flaming bounds of place and time"; Wordsworth referred to the soul that was like a star and dwelt apart, but could impart to men, "manners, virtue, freedom and power"; Byron, Shelly and Keats were among the most fervent of his admirers and in recent years Tennyson gave expression to one of the noblest eulogies of the poet's genius in the English language. It may be remembered that to the last-named poet, *Lycidas* was the touchstone of poetic taste.

Among all English poets, his life has the greatest variety and interest. A stern and uncompromising Puritan who fought heroically against the many corruptions of the

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Church of his age; a fierce republican and man of action who upheld the cause of individual freedom and liberty in political life; an artist imbued to the core with the spirit of Beauty—his is a life that is full of instruction, excitement and romance. Hebraism and Hellenism were blended in complete harmony, in this high-souled Teuton who fought for freedom of speech and the liberty of the press. Among the multitude of thoughts that will rise to the memory of this great master, on the occasion of the tercentenary of his birth, not a few will be those who are not mere lovers of poetry.

The literary career of Milton falls into three clearly-defined periods. Within five years after his leaving Cambridge in his twenty-fourth year (1632-37), he made his mark as a poet of a no mean order and if he had enriched the English language with nothing else than *L'Allegro* and *Il Penseroso*, *Comus* and *Lycidas*, all composed during this period, his name would have ranked with Tennyson and Wordsworth, Browning and Shelley. *L'Allegro* and *Il Penseroso* are remarkable in the literary life of Milton, being the spontaneous outbursts of his poetic instincts, produced without any prompting from external suggestion. These two exquisite lyrical pieces are, despite their contradictory titles, complementary to each other and present an ideal of life which must appeal to every young man entering upon the heritage of the world. It is no riotous and sensuous revelry that the poet courts in the former but the "unreproved pleasures" of enjoying the manifold glories of Nature and the delights of unsophisticated country-life—feeling the ennobling passion of pure love or cultivating the arts of refinement and culture; it is not again the sullen gloom of a morose

recluse that inspires the latter, but the calm and dignified pleasures of study and contemplation and the exalted ideal of a religious life, not even Puritanic in its rigour.

Comus has been called "the richest fruit of Milton's early genius" and there are few poems in the English language that can equal it in splendour of imagery or lyrical sweetness. It is true that the poem is occasionally marred by prosaic moralisings on vice and virtue—a dim portend of the Milton of later years—but who will deny that its general tone is that of the 'sweet sound that breathes upon a bank of violets'—the sun-shine of fancy and imagination streaming in brilliant profusion?

To this group belongs *Lycidas*, written to commemorate the memory of his friend Edward King, by which he added to English literature for the first time, an elegy which is quite a masterpiece in that branch of poetry. It is no exaggeration to say that it has not been excelled by any poet since then, though *Adonais*, *Thyrsis* and *In Memoriam* might be placed on an equal level with it. *Lycidas* cannot lay claim to the fire and loftiness of thought of *Adonais*; it cannot aspire to the loveliness of landscape that forms the background of *Thyrsis*, or its faultless classic grace, nor has it the dignity and philosophic grandeur of *In Memoriam* or its intense note of personal feeling, but in the harmony of its numbers and in its thrilling cadences, it is supreme in all the range of Elegiac poetry in English Literature.

During the next period of his literary activity which extends over twenty years, he occupied himself mainly with the work of pamphleteering which was rapidly coming into fashion in that age. His prose-works though most of them are only of a controversial nature are not lacking in interest to

the reader of the present day. The tracts on Divorce are all coloured by the rancour of his personal experiences in his bitter married life. *Areopagitica* is an eloquent plea for freedom of speech and Milton may be said to have begun with it an agitation that continued almost to the end of the last century in England. In the *Tenure of Kings* and *Eikonoklastes* he upheld the Commonwealth of Cromwell with all the enthusiasm of a partisan. The violence and ill-mannered passion of the controversial tracts, detract from their value, but they were the common faults of his age and it is too much to expect one who was in the thick of the fight, to have been in advance of his times in this respect.

The task of riviving the Sonnet from the disrepute into which it had fallen since the days of Shakespeare, was accomplished by Milton. These twenty years of his activity are important for having given birth to his Sonnets which though small in number are of a peculiar value to literature, not only on account of the excellence of their quality but also of a happy innovation which they introduced in the use of this metrical form in the English language. He was the first poet to use it for purposes other than the expression of erotic sentiments, for what has been called "occasional poetry." The Sonnet was till then only a conventional love-poem which usually appeared in a collection of Sonnet-cycles, like Spenser's *Amoretti*, Sidney's *Astrophel and Stella* or Shakespeare's *Sonnets*. By Milton, it was used for all kinds of subjects—men, feelings and occasions—from his *Blindness* to his *Twenty-third Year* to *Cromwell* and the *Massacre in Piedmont* or the *Imminent Cavalier Attack on London*. All lovers of poetry will share Wordsworth's

feelings when he said in his lines on the Sonnet:—

"And when a damp
Fell round the path of Milton, in his hand
The thing became a trumpet, whence he blew
Soul animating strains—alas too few"

The last fifteen years of his life saw the three great poems *Paradise Lost*, *Paradise Regained* and *Samson Agonistes*. Even an occasion like the tercentenary of the master's birth does not seem to demand a fresh panegyric of the glories of *Paradise Lost*. The average reader of English poetry may not apply himself to the study of *Paradise Lost* with the assiduity and enthusiasm of Macaulay and be able to repeat its thousands of lines without a single error, but the poem is as familiar to him as any other masterpiece in the English language. The Epic of twelve books and more than ten thousand lines which received the magnificent royalty of 5£ at the hands of Samuel Symmons the London book-seller with an additional 5£ during the life-time of the author and a slightly larger sum after his death, has lived to exert an influence which is reserved only for the few great literary masterpieces of the world. Though public recognition was not immediate, and though Addison's eulogy and critical appreciation had to appear in the *Spectator* to dethrone Davenant's *Gondibert* and Cowley's *Davideis*, the poem soon attracted notice and has remained a literary classic of the first rank during all these centuries. The power of the English language for musical expression and the ordering of sounds and harmonies cannot possibly go further, nor can the treatment of the sublime ever fall into abler hands. The author of *Paradise Lost* merits Tennyson's praise:—

"God-gifted organ-voice of England,
Milton, a name to resound for ages."

By one of those unfortunate impulses common enough in poets, which prompt them to prolong their work of poetic composition even when their muse has failed to inspire them *Paradise Regained* and *Samson Agonistes* were ushered into the world. Dull and uninteresting as all continuations, *Paradise Regained* would cease to be of any importance to literature but for some purple patches contained in it—the famous passages describing the banquet in the wilderness, the Parthian expedition and the splendours of Rome and Athens. Wordsworth has said that *Paradise Regained* is the most perfect of all Milton's works in execution, but that is not a virtue that can compensate to any extent for the want of poetic feeling.

In *Samson Agonistes*, which gives the person unacquainted with the Greek Tragedy a truer insight into its spirit than any other similar effort in the English language, like Matthew Arnold's *Menops* or Swinburne's *Atalanta in Calydon*, Milton has portrayed himself in the gloomy days of his neglect and obscurity. The hero in "captivity among inhuman foes" who is the "scorn and gaze" of his enemies, is Milton himself, now blind and bowed down by "poverty, sickness and disease," all his hopes frustrated and his country given up to royalty and corruptions in the Church.

The 8th November of 1674 saw the end of this hero of a poet who occupies by the greatness of his poetical achievements a place with the Chosen Masters of the world's mightiest bards. As Shelley has said:—

"He died

Who was the sire of an immortal strain,
Blind, old, and lonely, when his country's pride
The priest, the slave, and the liberticide,
Trampled and mocked with many a loathed rite
Of lust and blood. He went unterrified
Into the gulf of death; but his clear sprite
Yet reigns o'er earth, the third among the
Sons of Light."

S. SESHADRI.

MATHEMATICS

(Conducted by B. KRISHNAMACHARI, M.A.)

On the graphical solution of quadratic equations with the aid of compass and ruler only
BY B. KRISHNAMACHARI.

The equation $ax^2 + bx + c = 0$ can be written in the form $a\left(x^2 + \frac{b}{a}x + \frac{c}{a}\right) = 0$; and hence the solution of the former equation is the same as that of $x^2 + \frac{b}{a}x + \frac{c}{a} = 0$.

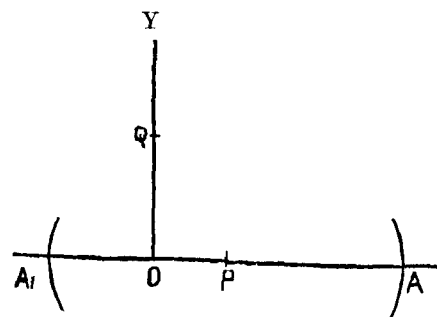
Putting $\frac{b}{a} = 2p$, $\frac{c}{a} = q^2$, this becomes $x^2 + 2px + q^2 = 0$.

There are four cases to be considered according to the signs before $2px$ and q^2 , $x^2 + 2px + q^2 = 0$, $x^2 + 2px - q^2 = 0$,

$$x^2 - 2px - q^2 = 0, \quad x^2 - 2px + q^2 = 0.$$

$$\text{I. } x^2 - 2px + q^2 = 0.$$

Here $x = p \pm \sqrt{p^2 - q^2}$. Therefore if $p < q$, the roots are imaginary and the graphic method is not applicable. We will therefore consider only the case where $p > q$.



Draw two lines OX, OY at right angles to one another and on one of them say OY take a point Q so that OQ = q. With Q as centre and a length = p as radius describe an arc of a circle cutting OX in P. With P as centre and PQ as radius describe a circle cutting OX in A and A1.

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$$\text{Then } OP = \sqrt{PQ^2 - OQ^2} = \sqrt{p^2 - q^2} \\ PA = PA_1 = PQ = p.$$

$$\therefore OA = OP + PA = p + \sqrt{p^2 - q^2} \\ OA_1 = PA_1 - OP = p - \sqrt{p^2 - q^2}$$

The lines OA and OA1 therefore represent the roots of the equation.

If $p < q$, the circle with centre Q and radius q does not cut OX, showing that the roots are not real.

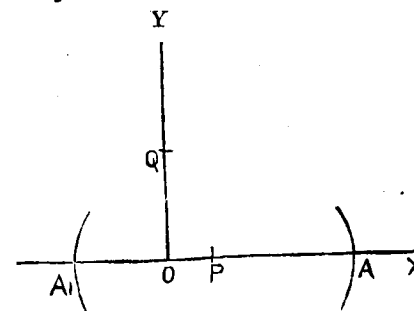
$$\text{II. } x^2 + 2px + q^2 = 0.$$

Here $x = -p \pm \sqrt{p^2 - q^2}$, i.e., numerically equal to the roots of the equation $x^2 - 2px + q^2 = 0$ but opposite in sign. Hence the roots still measure OA and OA1, but are both negative.

$$\text{III. } x^2 - 2px - q^2 = 0.$$

$$\text{Here } x = p \pm \sqrt{p^2 + q^2}.$$

Take points P, Q on the lines OX, OY respectively so that OP = p, OQ = q.



$$\text{Then } PQ = \sqrt{p^2 + q^2}.$$

With centre P and radius PQ describe a circle cutting OX in A and A1.

$$\text{Then } OA = PA + OP = PQ + OP \\ = p + \sqrt{p^2 + q^2}$$

$$OA_1 = PA_1 - OP = PQ - OP \\ = \sqrt{p^2 + q^2} - p \\ = -\{p - \sqrt{p^2 + q^2}\}.$$

Hence the roots are OA and -OA1, the smaller one OA1 having the negative sign.

Here p may be greater or less than q.

$$\text{IV. } x^2 + 2px - q^2 = 0.$$

$$\text{Here } x = -p \pm \sqrt{p^2 + q^2} \\ = -OA, +OA_1.$$

The roots are therefore numerically OA and OA1, the greater having the negative sign.

8 & 9. The questions as well as the solutions have already appeared in the review for November. Correct solutions are also furnished by S. RAMACHANDRAN, who adds the following discussion to question 8.

$$x = \frac{b - al^2}{1 - l^2} \\ y = \frac{(b - al^2)l}{1 - l^2}.$$

$$x^2 = a - y \quad \therefore a - y > 0$$

$$a - y = a - \frac{(b - al^2)l}{1 - l^2} = \frac{a - bl}{1 - l^2} \\ \therefore \frac{(a - bl)}{1 - l^2} > 0$$

$$y^2 = b - x \quad \therefore b - x > 0$$

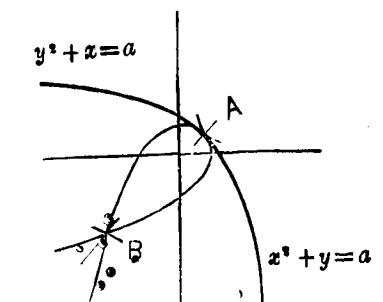
$$b - x = b - \frac{(b - al^2)l}{1 - l^2} = \frac{l^2(a - bl)}{(1 - l^2)} > 0 \\ \therefore \frac{a - bl}{1 - l^2} > 0$$

$\therefore l$ should not lie between $\frac{a}{b}$ and 1.

But if we substitute in the equation $x^2 + y = a$ the values of x and y in l we get an equation of the 4th degree two of whose roots are real and 2 imaginary. So practically we get 2 values for x and two corresponding values for y .

The same thing is clearly seen by drawing the graphs of the two equations

$$x^2 + y = a \quad \text{and} \quad y^2 + x = b.$$



The co-ordinates of A and B satisfy both the given equations.

13. The question as well as the solution has already appeared in the *Review* for November. Solutions similar to the analytical one given by me are furnished by P. V. KRISHNAIER, B.A., L.T., and S. RAMACHANDRAN.

15. [P. V. KRISHNAIER, B.A.]. x, y, z, u are four unknowns related to one another in the following manner:—

$$\begin{array}{ll} x + 2 \text{ is a square say } a^2 & \\ y + 2 & \text{,, } b^2 \\ z + 2 & \text{,, } c^2 \\ u + 2 & \text{,, } d^2 \\ xy + 18 & \text{,, } e^2 \\ yz + 18 & \text{,, } f^2 \\ zu + 18 & \text{,, } g^2 \end{array}$$

given that $a + b + c + d + e + f + g = 158$; find x, y, z, u .

Solution by M. S. SUNDARESWARAN.

The least value that x can take to satisfy the first condition is 2; then $a = 2$.

Then the value of y must be such as to make $y + 2$ and $xy + 18$ perfect squares.

The least value of y that satisfies these two is 23, then $xy + 18 = 64$. $\therefore a = 8$; and $b = 5$. Again $z + 2$ and $yz + 18$ are perfect squares. The value of z that satisfies these two is 62, then $z + 2 = 64$; i.e. $c = 8$; and $yz + 18 = 1444$, i.e. $f = 38$.

Lastly $u + 2$ and $zu + 18$ are perfect squares. The value of u is 119; then $u + 2 = 121$; i.e. $d = 11$ and $zu + 18 = 7396$; $\therefore g = 86$.

$\therefore a + b + c + d + e + f + g = 2 + 5 + 8 + 11 + 8 + 38 + 86 = 158$ which is the given relation.

$\therefore$ the values of x, y, z, u are 2, 23, 62, 119.

[This solution depends more upon guess than upon anything else; and so far as I can see there can be no solution strictly mathe-

matical. Will the Proposer please favour me with such a solution, if any. B.K.]

16. [B. KRISHNAMACHARI, M.A.]. If n be a positive integer, show that

$$\begin{aligned} 1 - \frac{1}{2} + \frac{1}{3} - \dots - \frac{1}{n} \quad (n \text{ even}) \\ = 2 \left(\frac{1}{n+2} + \frac{1}{n+4} + \dots + \frac{1}{2n} \right) \\ 1 - \frac{1}{2} + \frac{1}{3} - \dots + \frac{1}{n} \quad (n \text{ odd}) \\ = 2 \left(\frac{1}{n+1} + \frac{1}{n+3} + \dots + \frac{1}{2n} \right). \end{aligned}$$

Solutions by P. V. KRISHNAIER, B.A., and K. K. RENGANATHA IYER.

Let S_n denote the sum of n terms of the series $1, \frac{1}{2}, \frac{1}{3}, \dots, \frac{1}{2n-1}$.

S'_n that of n terms of the series

$$\frac{1}{2}, \frac{1}{4}, \frac{1}{6}, \dots, \frac{1}{2n}.$$

Then the given series $= S_n - S'_{\frac{n}{2}}$ when n

is even and $S_{\frac{n+1}{2}} - S'_{\frac{n-1}{2}}$ when n is odd.

Taking n even,

$$\begin{aligned} S'_n &= \frac{1}{2} + \frac{1}{4} + \frac{1}{6} + \dots + \frac{1}{2n} \\ &= \frac{1}{2} \left(1 + \frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n} \right) = \frac{1}{2} (S_n + S'_{\frac{n}{2}}) \\ \therefore 2S'_n &= S_n + S'_{\frac{n}{2}} \\ \text{i.e. } 2 \left(S'_{\frac{n}{2}} + \frac{1}{n+2} + \frac{1}{n+4} + \dots + \frac{1}{2n} \right) \\ &= S_n + S'_{\frac{n}{2}} \\ \therefore S_n - S'_{\frac{n}{2}} &\text{ or the given series} \\ &= 2 \left(\frac{1}{n+2} + \frac{1}{n+4} + \dots + \frac{1}{2n} \right). \end{aligned}$$

The case when n is odd can be proved similarly.

17. [P. V. KRISHNAIER, B.A.] The remainders after dividing 3, 7, and 9 times a certain number severally by 30 form, when added together, a number which will leave the remainder 11 when divided by 30. Find the original number.

Solution by K. K. RENGANATHA IYER.

If x be original number, $(3 + 7 + 9)x = 30(M) + 11$

$\therefore$ to find x we have to solve the equation $19x - 30y = 11$, x and y being integers.

$x = -1, y = -1$, is a solution

$\therefore 19x - 30y = 11 = 19 \times -1 - 30 \times -1$, i.e., $19(x+1) = 30(y-1)$

$\therefore$ Since 19 and 30 are prime to each other

$$\frac{x+1}{30} = \frac{y-1}{19} = t \text{ (an integer)}$$

$\therefore x = 30t - 1$.

As x is positive, $t > 1$. Giving t the values 1, 2, 3... we see that x can have the values 29, 59, 89... The common difference between any two values is 30, or a multiple thereof as will have been anticipated.

19. [M. KANNAN, B.A., L.T.]. If a circle be described to touch a parabola and pass through its focus, shew that the line of intersection of the two curves, shall pass through a fixed point on the axis of the parabola.

Solution by K. K. RENGANATHA AIYAR and M. S. SUNDARESWARAN.

Let $y^2 = 4a(x+a)$ be the equation to the parabola, focus being the origin. The equation of a conic touching the curve is easily seen to be

$$\lambda [y^2 - 4a(x+a)] + \left[y - m(x+a) - \frac{a}{m} \right] \times (Ax + By - 1) \dots I$$

where $Ax + By - 1$ is the equation of the chord of intersection.

Since 1 passes through the origin and also represents a circle, we have

$$-\lambda 4a^2 + \frac{a}{m} + am = 0 \dots \dots \dots i$$

coef. of y^2 = coef. of x^2 and coef. of $xy = 0$,

$$\text{i.e. } \lambda + B = -Am \dots \dots \dots ii$$

$$A - Bm = 0 \dots \dots \dots iii$$

$$\text{From ii. and iii. } \lambda = -A \left(m + \frac{1}{m} \right) \dots iv$$

From i. and iv

$$\frac{\lambda 4a^2}{\lambda} = \frac{a \left(\frac{1}{m} + m \right)}{-A \left(m + \frac{1}{m} \right)},$$

$$\text{i.e. } 4a = -\frac{1}{A}, \text{ i.e. the chord makes a}$$

fixed intercept on the axis or passes through a fixed point on the axis of the parabola.

QUESTIONS FOR SOLUTION.

* 26. [B. KRISHNAMACHARI, M.A.] Solve graphically the equation $p \cos \theta + q \sin \theta = r$. [Ruler and compass only to be used].

27. [M. KANNAN, B.A., L.T.]. If P, P_1 be the radii of two circles with respect to which the circum-circle and the nine points circle of a triangle are mutually inverse, show that $P^2 + P_1^2 = 4R^2$, where R is the radius of the circum-circle.

28. [B. KRISHNAMACHARI, M.A.] ABCD is a quadrilateral. P, Q are points in AB, CD respectively such that AP.QD = CR.PB; PR, QS are drawn parallel to CD, AB respectively meeting BC, AD in R, S respectively. Prove that RS is parallel to BD.

29. [B. KRISHNAMACHARI, M.A.] Prove that $a \cos(B-C) + b \cos(C-A) + c \cos(A-B) = \frac{4}{R}$.

30. [B. KRISHNAMACHARI, M.A.] Show that
 $\{\Sigma(y-z)^2\} / \{\Sigma(y-z)^2\} - 4\pi(y-z)^2$
 $= \{\Sigma x^2 - \Sigma yz\}^2$.

OLD QUESTIONS AS YET UNSOLVED.

10. [V. RAGHUNATHAN]. In the dissection proof of Euclid I. 47 given for Question 4, cut the wood into two pieces only so as to fit into a square of side 5".

18. [P. V. KRISHNAIAH, B.A.] $ax+by+c=xy$. Devise a method of easily finding integral values of x and y which satisfy the above equation where a , b , and c are integers.

THE EDUCATION OF MAHOMEDAN GIRLS IN MADRAS.

(BY AN ENGLISH VISITOR.)

THE education of Mahomedan girls in Madras is making slow but sure progress. For many years Mahomedan men have believed that the less their wives and daughters know of reading, writing and arithmetic the better for all concerned. This being the case, we naturally find the girls in Mahomedan schools less receptive than their Hindu sisters. "Slow but sure" is, however, the motto of these demure-looking little maidens; and those who remember the fable of the hare and the tortoise will not be surprised to hear that the Mahomedan girls who go to school in Madras are gaining ground.

"Mahomedan girls are all duffers" said to me a few days ago a little Brahmin school-girl.

Possibly this young lady may be a little "too fast." At any rate, Mahomedan girls in the Madras schools are "moving on" at present. The Mahomedan girl is generally "dull at figures," while the Hindu girl is

particularly quick at arithmetic, many a Mahomedan girl attend school for years, and goes away, at last, without understanding that 2 and 2 make 4.

In needle work the Mahomedan girl excels. She is very fond of poetry. Drill she objects to; but, as she stoops, in 9 cases out of 10, drill is a necessary part of her education. Best of all she likes to watch growing plants, and to learn about beasts, birds and insects. In her home, she sees little more than walls and the roof of a house; and to watch potatoes grow, beans sprout, and seeds germinate is to her a revelation.

Mahomedan girls are physically stronger than their Hindu sisters, probably because they eat fish and mutton. Many of them are extremely good-looking. They love bright colours, and their clothes are nearly always gay and pretty. A Mahomedan woman, however poor, buys in the bazaar a piece of white mull and some bright-coloured dyes, and with these things she makes brilliant red, yellow, violet and blue clothes for herself and her children. Large dark eyes, made larger by dark lines; a wealth of black hair; ears weighed down by ornaments; ankles covered with silver bangles,—these things help to give to the little Mahomedan girl a womanly appearance. She looks modestly down on the ground when a visitor is in the room; and she smiles but seldom, even during games, if a stranger is looking on. It is easy to pick out the little begums, or ladies. Most of the girls in the Missionary and the Government Schools for Mahomedan Girls in Madras belong to the poorest families in the Mahomedan community; while the girls in the school in George-town, which is managed by Mahomedan gentlemen, are the daughters of merchants,

I propose to briefly describe three or four schools for Mahomedan girls in Madras, giving a specimen of a Government school, a Missionary school, and a school managed by Mahomedans.

I have been told that five years ago, Mahomedans became alarmed about their girls. They thought that the Missionaries were likely to win their daughters away from the faith of the Prophet. I have made enquiries about this report; and I have been told that it originated with the removal of Mahomedan teachers from the Missionary schools, and the engagement of Christian native teachers to take their places. The Mahomedan teachers, I have been told, had either openly, or secretly, taught the Koran in the Missionary schools. At that time several schools for girls were started in Madras by Mahomedans,—schools in which the Koran could be taught, and many girls were removed from the Missionary schools. However, most of the girls returned to the Missionary schools after a short time. The Missionary schools have been going on for twenty-five years, and during that long period, not a single girl in them has become a Christian. The Missionaries apparently have been satisfied with educational results. In these Missionary schools girls are taught the Christian religion; but they look upon Mahomed as their Saviour. Christ, they say, is the Saviour of Christians; and with that difference, there is, they think, very little difference between their own religion and the religion of the Missionaries.

As to the schools started by the Mahomedans, two continue to-day, and the largest is examined by a Government School Inspectress, and receives a Government Grant; and the other school, in which the Koran is especially taught, will probably before long

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be replaced under Government inspection, for the chief promoter, Muhammad Abdul Kuddus Badsha Sahib, told me that he finds the Government does not interfere with the religion taught, and an inspection keeps teachers up to the mark. When the results of an examination have to be taken into account, then teachers understand that no time can be wasted, and that their work will be judged by results. Before going further, I would like to point out that the time has evidently come for the Government to appoint a Special Inspectress for Mahomedan Girls Schools in Madras. A knowledge of Hindustani is imperative in schools where English is not learnt, and where neither mistresses nor pupils understand the English language. In most cases the girls understand Urdu only; and a man has to be introduced behind a curtain—a very awkward arrangement. He translates for the Inspectress. She cannot come in touch with the teachers unless Hindustani is known to her; and the Madras Inspectresses are so hard-worked that no time is left to them for acquiring new languages.

The Government school that I visited stands in large, well-kept grounds—grounds that are often made purdah, that is to say where the gardeners, water-carriers and others are sent away while the girls receive lessons in natural history. Most of the girls in this school are very poor. Many are the daughters of bangle-sellers in the bazaars. A few are (so the head mistress told me) the daughters of clerks, cavalry officers, doctors and professors in colleges. None of the girls learn English. No religion is taught in the school. The girls are clever at drawing and needle-work; and "natural studies" please them more than anything else. I was shewn seeds

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grown on bits of flannel, butter-beans sprouting in bottles, and potatoes germinating in pots; and I was told that the girls are deeply interested in the progress of these things, many of them having never seen the growth of plants and flowers before. Gardens and growing trees and flowers these girls never enjoy, unless their teachers take them in carts to the Botanical Gardens, or—greatest treat of all—to the People's Park, which Mr. Lloyd kindly makes purdah about once a year so that gosha women and girls may see "real wild animals."

Nearly two hundred girls are in this Government school, and carts start at six in the morning to collect them. At ten o'clock school begins, so some of the girls have to spend quite a long time in the play-ground. The women who fetch the girls and take them home again, are paid by the Government, and carts, bulls and drivers are provided in the same way. Tiffin rooms are in the play-ground, and the girls either bring their food or receive it from home in the middle of the day. A good supply of water is available for drinking and washing purposes, and the girls can rest during the recesses in cool comfortable rooms. At four in the afternoon the girls begin to return home, and it is eight o'clock before all are once more with their parents. The women who fetch the girls and take them home look after their charges at tiffin time, and out of school hours; and as school lasts only from ten till one, and two to four, the girls are for many hours under the care of the "supervisors" as these women are called. This Government school has been in existence for thirty years, and during that time one hundred Mahomedan teachers have been trained there. Some of these teachers are widows. The Government allows seven

rupees a month for a Madras teacher, during her period of training, and five extra rupees if the teacher comes from the mofussil, and has to pay for board and lodging in Madras. The teachers—or students as they are called—have to provide their own books; and this comes to about seven rupees during the year. The pupils also receive scholarships, varying from two to three rupees a month, and if a pupil is a widow, then she receives from four to six rupees a month. By means of these scholarships the Government keeps the girls at school. Without scholarships the girls would not remain at school after the age of eight or ten, but by means of scholarships, quite big girls are kept in the classes. All the education is free, but school books must be bought, and some Mahomedan fathers grumble at this expense, saying that as the Government does so much, it may as well do all.

I asked whether the mothers of the girls visit the schools, and I was told that at the annual distribution of prizes many mothers put in an appearance, but that Mahomedan husbands do not approve of visits at other times, fearing, perhaps, that such visits may be made an excuse for meeting men. Mahomedan husbands evidently think that their wives—like the wife of Cæsar—must be "above suspicion."

I asked whether the education given at this school during the past thirty years has made any marked difference in Mahomedan women in Madras; and I was told that the English zenana doctors who visit the homes of Mahomedan women notice that the girls educated in the school have more self-reliance than other Mahomedan girls; and that the third generation educated in the school—namely the generation now at school—learns

more easily and is more active than the two previous generations.

Children are admitted at the age of four, and then do Kindergarten work with bricks, and clay, and paper. They learn to play games, and are drilled. The drilling in this school is not as good as in a school for Hindu girls. Mahomedan girls are stiffer in their movements than their Hindu sisters, and look less graceful. For generations, in fact always, dancing has been discouraged in Mahomedan homes; and the sedentary life led by Mahomedan women does not tend to make them supple.

"As straight as an arrow, as supple as a serpent, and as proud as a tiger lily"—such an ideal is never held up before a Mahomedan girl as something to imitate. The next school that I visited has been in existence for a quarter of a century, and belongs to the Church of England Zenana Mission. The building is large, and commands a high rent, and the play-ground is surrounded by kitchens and tiffin rooms. Many of the girls are very poor, and if the Missionaries did not give them a meal in the middle of the day, they must go hungry. The school receives a Grant from the Government, and the Missionaries found that the girls could not come up to the Government standard without one good meal during the day. So they opened a working-room not far from the school, where Mahomedan women are taught to make the pretty things sold in the shops of some Mahomedan tailors, and hawked from house to house by Mahomedan men.

At this place the women receive rather better pay than is given for such work by the trade; and widows are employed. The women are fetched and taken back in carts, and they do piece-work, being paid according to the

nature of the work they do. A large piece of beetle wings embroidery was in progress when I visited the school, and I was told that this had been ordered by "Government House." Most of the work goes to England, where it finds a ready sale among the friends of missionary work. The small profit made by the sale of this work pays for the meal given in the middle of the day to the children. The food is cooked at the school, and each day two girls help the cook, and in this way they learn kitchen work. The school closes on Friday, and although the girls learn the Bible, including the New Testament, none of them have become Christians. A few of the girls in this school are well off, and they attend chiefly in order to learn English. I went to see the prize-giving in this school, last December. It was a pretty little ceremony, Christian hymns were sung in Urdu by the children. Many mothers and elder sisters were present; also, a great number of babies, and all seemed to be interested in the drill of the children. The old English song "Here we go round the mulberry bush" was sung and acted, and a shawl dance was much admired. The prizes consisted chiefly of dolls, quite big girls preferring a dressed English doll to any other gift. Mrs. Firth of San Thomé gave away the prizes, and the salaams of the little girls were returned by the English Missionaries and doctors who attended the prize distribution.

The drill of this school is good, and to see the girls marching, singing and salaaming is a pretty sight. The difficult Urdu alphabet is made easy to the infants by beans. They sit on the floor making letters with beans, and in this way master the beautiful but intricate writing known as Hindustani. Dyes bought in the bazaar are used as paints, and a bit of

flannel tied to a stick serves as a paint-brush. The girls are clever with their fingers, and make wicker baskets, plaited boxes and straw parrots. Poetry, the older girls seem to understand and appreciate, and they recite in a sing-song fashion that sounds very like singing.

A little school kept by a Mahomedan widow interested me, for I was told that she supports her children and her mother by the small grant that she receives from the Government. Her pupils pay little or nothing at all. In this school I found no drill. The girls had no games, but a great deal of time was given to the Koran. Behind the curtain was a supervisor. I questioned this man about the religious instruction given and, he said that the children learn the Koran like parrots, and do not understand what they are taught to say. The words are holy, and to repeat them is efficacious, he said; and the children are taught how to pray, how to dress, how to eat, and how to behave—all of which things have a religious significance. The little son of the schoolmistress acted as a monitor, and walked gravely up and down the room, keeping the children in order. The children in this little school read well, and are particularly good in arithmetic.

Finally I visited the Saiyadia Zenana School in Georgetown, which is largely supported by Muhammad Abdul Kuddus Badsha Sahib. There about one hundred girls are being educated. These girls belong in many cases to wealthy families, and they presented a very gay appearance. Some of the Persian girls are not darker than Italians. Beautiful ornaments were worn by the girls in this school, also silks and satins. Some girls had on English shoes with high heels, and these threw them forward in a curious way.

No English is spoken in this school; and a man had to be brought in by some old women and hidden behind a curtain, to act as interpreter.

"Gosha," said the old women, and immediately there was a rush for doors, although the supervisor was no longer young and fascinating. Safely shut up in a small room, he translated the work of the day, questioned the children, and heard their reading, poetry, etc. Some of the teachers could speak Tamil, and with them the Inspectress carried on a conversation. Three widows were in the school, one holding a Government scholarship, and the other two hoping to receive such scholarships. A sheet of paper on the table asked the Inspectress to "pity the miserable condition of these young widows" and recommend them for scholarships. They wore white, and had no jewels, and it was said that as teachers their lives would be happier than the lives of other girls without husbands.

I was particularly interested to see *Luhr* and *Chumpa* work which was described as "Mahomedan work whereby women can earn money." Each teacher gave a specimen lesson. The head mistress announced that her lesson would be on "Germs, with Experiments." This sounded rather ambitious, and as there was no magnifying glass, no germs could be found. The pupils said that they could see "germs," but no one else could do so; and another lesson had to be substituted for "germs." A second teacher gave a lesson on Wheat, showing wheat growing in a bottle, flour, and finally preparing *Sayvian*. This delighted the children, for a fire was brought into the room, and milk was boiled. Finally, when the *Sayvian* was ready, each girl tasted it. A third teacher chose the cow as her subject, and made ghee over a lamp

The teachers seemed to me very capable women, and very much interested in their work.

No drill is given in this school, but the Koran is taught. One hour of each day is devoted to religion, and on the walls of the class rooms are texts from the Koran in Urdu. The plain sewing done by the girls is very good, and they seem to excel in making button holes. They make also little jackets and other articles of dress. Poetry they recite with sweet voices, and their reading is excellent.

I had an opportunity to talk with Muhammad Abdul Kuddus Badsha Sahib, the manager and promoter of this school, and also of the so-called "Koran School" near the great mosque. I asked him why Mahomedans do not pay for the schooling of their girls, and he seemed to think that to give a free education is the duty of wealthy Mahomedans. Everyone in Madras knows how nobly he and his family have worked in this direction, and how much Mahomedan boys and girls owe to him. I asked him, also, about the religion taught to girls in schools owned by Mahomedans, and he explained that a knowledge of Arabic is necessary in order to understand the Mahomedan religion, and that very few girls have time or opportunity to master Arabic. Books have to be studied, and it takes many years of a man's life to master the religion of Mahomed. This I was not surprised to hear; but I had not grasped before that ceremonial is a part of the teaching given to Mahomedan children.

I would like to recommend, more especially to English people, the excellent articles on the religion of the Mahomedans in the eighth volume of "The Historian's History of the World," published by *The Times*. The article

on *SUNNA*, or "custom hallowed by ancestral use" should be read by all who have anything to do with the education of Mahomedan children. This article is by Dr. T. Goldziher, Professor in the University of Budapest.

English people are too apt to judge the Mahomedan religion by English translations of the Koran and to ignore the masses of recondite literature connected with the writings of the Prophet. How many English people know the history of the famous Kaaba, or Black Stone, for instance? I quote it here in order to show the poetry underlying the religion of Mahomedans. Were not the Arabs the first poets of this prosaic world?

When Adam was driven from the terrestrial Paradise and sent into the world, he lamented to God. "Alas! I shall hear no more the angels' voices" he said. "That" said God "is the result of your sin. But build me a temple and walk around it, thinking of me, as you have seen the angels do around my throne." Adam arrived in the neighbourhood of Mecca, and laid there the foundations of the holy temple, whilst the angels aiding him, brought large blocks of rock from five mountains. It was on these foundations that the temple itself descended from heaven. Adam also received from Paradise a tent formed of red hyacinth, also a white hyacinth, which became blackened when sinners touched it. This is the famous "Black Stone." At the time of the Deluge both temple and tent were taken up to heaven, but the Black Stone was hidden in the mountain of Abu Kobais, near Mecca.

When God ordered Abraham to build a temple on a certain spot, he came upon the old foundations laid by Adam; and the angel Gabriel brought to him the Black Stone from Mount Abu Kobais, to mark the spot where the processions should begin round the temple.

THE QUESTION PAPERS OF THE MATRICULATION EXAMINATION, 1908.

A Review.

KNOWLEDGE has to be tested, all the world over, by means of examinations. As no human institution is infallible, examinations too, as tests for the possession of knowledge, cannot be infallible. But there are different degrees of fallibility connected with the different systems of examinations obtaining in the world. We may approach near enough to perfection by individualization being secured both in the matter of instruction and in the tests employed. Individualized instruction and individualized examination were what generally existed in the ancient world and hence the phenomenal success of the educational systems of the past. But, due to the gradually widening area of the educational systems of the modern days and on account of various other causes, the individual system has had to give way to the system of instruction and examinations for large numbers of young men and women at a time which brought with it evils of various descriptions. The success of a university has to be tested by how far it is able to minimise these evils; the fewer the evils, the greater the efficiency of a University. The foreign Universities, almost all of them, try to combat against the evils of the examination system by a wholesome combination of individual observation and the unavoidable evil of common examinations.

While such is the attempt made everywhere else in all progressive countries, it is a matter for regret that in India alone examinations have an exaggerated value. They have been made the sole tests to estimate the attainments of the young men and women who are the alumni of the various Indian

Universities. When examinations and examinations alone are the only means for the securing of the University passports, those who are responsible for the conduct of the University cannot be too careful in adopting measures to make the machinery of the examinations as nearly perfect as possible. Whatever they do in the other Indian Universities, so far as the Madras University is concerned, it has to be inferred from the question papers set that the responsibilities that devolve upon examiners do not seem to have been realized in all seriousness to the fullest possible extent. This is not intended to be a sweeping statement regarding all examiners or all question papers of a single year. Eccentricities in examination papers have been exhibiting themselves, now in one question paper and now in another, but, all the same, bringing deplorable hardships even upon candidates well prepared for examinations. Innumerable instances of such eccentricities in the examination of the recent years can be pointed out, but it is thought sufficient to confine the following remarks to the question papers of the Matriculation examination, just now over, with the particular object of cautioning against the recurrence of such eccentricities in the re-examination that is to come off a few weeks hence. The caution is all the more necessary in view of the fact that a candidate who fails in Matriculation this year loses one of the three chances allowed him to appear for the examination.

Before we enter on the criticism of the defects contained in some of the papers, it has to be said, that, except a few of the papers, the others were on the whole much fairer this year than in the previous years. The hue and cry raised last year and the inquiry

held by the Matriculation Commission seem to have had a very wholesome effect upon the examiners generally; in fact we should have the least cause of complaint if the papers of the future years are set with as much thought as such of the papers of this year that do not come within the scope of our criticism.

The most objectionable of the papers is admittedly the one on English Grammar, but before that is reviewed, a word or two may be said regarding one or two other papers. The Arithmetic question paper is a fine paper indeed, and we should have taken no exception to it but for the carelessness with which the last question seems to have been framed. The first sentence in the question runs as follows: "A man sells £20,000 $3\frac{1}{2}$ per cent. Government Paper at 96, and buys as many Rs. 500 Bank of Madras shares at 1130." The expression "as many Rs. 500 Bank of Madras shares at 1130" implies that the number of shares is given in the previous part of the sentence; but unfortunately we search for it in vain. This is the first time in which we learn that a stock capital is estimated by the number of shares. The examiner evidently entertains the mistaken notion that each hundred of the nominal value of Government Paper is to be counted as a share. Government papers are quite like the cash capital that one possesses and no one we know calculates the capital on hand as consisting of so many shares. Computation by shares is what is observed in connection with joint stock companies alone. Question VII in the same paper is not objectionable in the sense in which the last question is, but the language employed is not transparent, which must be kept in view by examiners framing questions for young pupils going up for the entrance examination of the university with

a limited knowledge of English. The sentence "there is no room for additional workers" is misleading. The word 'room' occurring in the sentence would be ambiguous to youngsters; the examiner would have done well to have chosen a much better term to convey his meaning more directly. It is not intended to advance this as a serious objection but only to impress upon examiners the necessity to weigh the significance of the words and expressions employed in the framing of the questions.

The one other question paper, except the English Grammar paper, to which one would take exception is the paper on Sanskrit Text and Grammar. The objection we wish to advance is not against any badly-worded or misleading questions or any obvious mistakes contained in them but our objection is against the distribution of the questions. The examiner, whoever it is that set the question paper, seems to have had a peculiar partiality for Dharmavyadhopakhyana in preference to the other portions, though a series of letters have been appearing in the public press regarding the unwisdom of the Sanskrit Board of Studies in having included this portion in the selections for the Matriculation Examination of 1908. In view of the public criticism to which this particular portion was subject, the examiner should have reserved a minor portion of his questions to this selection of the text-book if he could not have overlooked it, which, it appears to us, would have been a better course, but it is a pity that he goes in for a larger share in the question paper, though from the unfavourable comments in connection with it candidates would have devoted only an indifferent attention to it, which seems to have been the case. It is hoped that examiners

will not show particular indulgence to this portion or that of a text-book because they like it most.

There are a few minor defects in some of the other papers but we do not think it necessary to advert to them. But we should be failing in our duty, if we fail to enter our emphatic protest against the careless and negligent way in which the English Grammar paper appears to have been drawn up. It is a matter for wonder how the English Board consisting, as it does, of erudite English scholars, passed it without alterations, in the face of obvious faults of grammar and idiom and what is worse than these, of ambiguities calculated to place candidates on a wrong scent. This one paper is enough to cause a good deal of hardship to many a hopeful candidate which no fairness in the framing of the other papers can adequately remedy.

Passing over the defects of a minor nature in the paper, we confine our attention only to such questions as admit of no excuse to find a place in a University question paper. The term 'affirmative' found in question IV by which the examiner means 'assertive' is a laughable mistake and we wonder how in a grammar paper such a mistake in a simple fact of grammar was allowed to occur. The question itself is as stupid as it is incorrect in its wording. The examiner should have specified the particular part or parts of the future tense in which the various forms of 'go' are required. In the absence of such instruction candidates would write the forms in all the four sub-divisions of the future tense which are not evidently what the examiner wants. The question VI has sent many a good English teacher into the realms of surmises from which we believe the examiner only can find a way out for them.

What the expression opposite in meaning to 'civil war' is has not yet been discovered by English teachers of High schools as also of the expression 'a dead heat.' In question VIII the sentence "He is a failed Matriculate", though obviously ungrammatical, admits of no correction. It is as bad to say 'He is a plucked Matriculate' though correct from point of view of grammar as it is ungrammatical to speak of one as 'a failed Matriculate.' One cannot be a Matriculate and yet one plucked in Matriculation. The next sentence "why not we go and take a walk" has passed current in ordinary conversation quite like so many elliptical sentences. This sentence may be given for the supplying of ellipses but unhappily it appears in the list of sentences given for correction. The sentence "He left go his hand" is a child's mistake and as such has no legitimate place in a Matriculation question paper. The last sentence in this curious group of sentences for correction is also misleading which, in its subtle inaccuracy, forms a striking contrast with the sentence next before it, as it appears to us to be one that may very well have been included in an F. A. language paper. The third sentence in question IX has caused no small measure of amusement in those who have read the question paper under review. The sentence is "Though they were deprived of their leader, the men were unable to fight." This sentence, in the face of its obvious mistake, does not deserve any comment. The examiner probably meant 'able' but in his hurry should have put down 'unable' in his manuscript. The question X which is on analysis is a very important question being one which should carry a good number of marks, but yet, it is the most misleading of the questions. As it stands, it is incomplete;

we are sure it should have caused no small amount of confusion in the minds of youngsters 'eagerly hunting after the principal clause and finding none.' We ask in all seriousness whether in the boundless ocean of the English language the examiner could not have discovered a sentence which could lend itself to analysis without any of the misleading features of the sentence given in this paper. The last question given for the change of speech is also objectionable. If the direct form is intended to begin with "I said, etc." it would again be in the indirect form. The examiner wants probably an answer in the following form: Rama said "I should have been the first, etc." No one that reads this question will admit that the examiner has made an unfortunate choice of the passage for change of speech.

Before we conclude we have to say one word more in connection with this paper. But a few weeks before the commencement of the University examinations a circular letter was sent by the University Registrar containing hints to examiners in regard to the setting of the question papers in English. The hints contained in the letter distinctly require that all questions on English Language should be based on the principle of applied grammar, questions on formal grammar being positively discouraged. After the receipt of this letter many head-masters positively discouraged the study of formal grammar—a study that would be impossible without the candidates having recourse to the learning by rote of minute grammatical rules with

their exceptions and counter-exceptions. It was a surprise and a disappointment that the English Grammar paper set for the last year of the Matriculation Examination according to the old regulations was a paper on dry grammar alone without one sensible question to test the real capabilities of the candidate in English Language.

It is a pity that the candidates have to pass in the paper that has been subject to a good deal of criticism in the press. The Syndicate would have done well to have invalidated the examination in English Language also just in the same way as they have invalidated those on the other subjects except the one on optional languages. As the candidates have unreasonably to undergo a double filtration in English, it is hoped that the English Language paper for the re-examination will be set with the care that it deserves. We also believe that all the question papers for the University examinations to be held in the future years will be framed with care and thought and under wise guidance, as it would be unfair to play lightly with the fate of thousands innocent hopefuls of the presidency as if they were of no consequence.

A HEADMASTER.

ON SYLLABUS OF STUDIES IN
ENGLISH FOR SCHOOLS.*

Up to a few years ago the right form and purpose of Syllabuses of Studies were not generally understood and the work of schools was conducted without the aid of well-defined syllabuses. Even in schools which had syllabuses, they were not what syllabuses should have been, but were mere statements in a tabular form of the portions in each subject to be periodically done. It being left to each teacher to impart instruction on the portions prescribed, the standard of the class was not kept in view and the natural result was either the overdoing or the underdoing of the year's portion to be taught, which very much interfered with the systematic progress of the school-going children and youths.

If in schools proper attention was not paid to this portion of school-work, the blame does not wholly attach to the teaching profession itself. Neither the Department, nor the Inspectorial Staff thought it worth their while to trouble themselves about it. All that the Department did was to portion out the work to be done in each class for the year and the Inspecting Officer confined himself within the portions for the purpose of his examination. Even this was indeed an improvement upon what had obtained previously, in which there were varying grades in the standard of attainments of each class due to the variations in the inclinations and tendencies as well as in the capacities of the teachers in charge, but all met at a common standard only in the classes preparing for public examinations.

The importance of a systematic syllabus came to be realized by the teaching profession of this Presidency only very lately. Though the evils of the absence of syllabuses are patent now to any person who lays claim to any knowledge of the principles of teaching, it is a pity they were not realized until very lately and I am therefore led to regard the general inattention to this portion of the work as one of the main causes contributing to the inaptitude of the majority of the pupils of our Secondary Schools for the classes in which they are placed. It was not

A lecture delivered by A. PANCHAPAGESAIYAR, M.A., L.T.

seen that in the absence of a well-defined scheme of school studies for the whole year gradually progressing from class to class, leading on to courses rising from one department to another of a school, there would be no systematic acquisition by pupils of the several branches of knowledge prescribed for their course and that it would bring about a general inefficiency in the pupils who are brought up under no regular system. The failure on the part of the Department to insist on syllabuses gave freedom indeed to individual teachers, but for one instance of pupils profiting under such a system, there were hundreds who suffered by it.

It might be argued that, if the absence of syllabuses carried evil to one extreme, the insistence of syllabuses might hamper the progress of the capable pupils who are above the average of the general run and might act as a clog upon enthusiastic and efficient teachers with intelligent disciples from rising beyond the dull average. This would be true indeed of the cases pointed out. One reason for the provision of a general syllabus is that the interests of the many should not be sacrificed for the convenience of the few. Another reason is that it is possible to make an efficient provision for the systematic educational advancement of the general average without hampering the progress of those who are above the average. It is the possibility of this provision that has been kept in view by the Educational Department in the preparation of syllabuses found in the 'Hints and Suggestions' and by the University who have lately issued instructions in a printed circular letter of theirs for the setting of the University question papers in English. Omitting syllabuses for other subjects, which have no connection with the subject of the present paper, let us see in the following what objects have been kept in view both by the Department and the University in the preparation of the syllabuses in English they have published.

It must be remembered that the syllabuses published are intended for departments of schools as a whole. Syllabuses have not been published for each class or form of a department, because it is wisely held that schools should have free-

dom to vary the portions to be done in each class according to the standards of the attainments of the pupils in the several classes; nay, the instructions go further and say that the teaching staff may even go still higher than what is contemplated in the syllabus for a particular department, in case it is found that the standard of the school is much higher than the average. The instructions do not speak of what ought to be done but what can be done and embody in themselves the principles of guidance for the benefit of the teacher. It is not expected that all that is required by the syllabuses should be done at once but schools are required to show gradual improvement on the lines pointed out so as to reach as early as possible the level that those who are responsible for the syllabuses have set forth before themselves.

What is said in the Scheme of Studies for Elementary Schools may also in a measure be taken as applicable to a scheme of studies in English for Secondary Schools. It is said in the introduction that "every effort has been made in preparing the scheme to ensure elasticity and to afford the manager scope to modify the curriculum of his school with reference to local needs and circumstances. The need for a liberal interpretation and discreet application of the departmental recommendations will be impressed on all grades of inspecting officers; and they will be asked to take special care to see that due consideration is paid to local needs and aspirations." If there are not differences in local needs and aspirations so far as Secondary Schools are concerned, yet, it must be conceded there are differences caused by varying degrees in the standards set up in individual schools and by varying degrees of attainments in the materials already on the rolls of, or coming for admission in, each school. So, while elasticity is unavoidable, attempts must be made to accelerate progress to reach a common high level. But at the same time overzealous teachers should take care that their zeal does not outrun their discretion, that a wide gap is not created between the standard of instruction attempted and the meagreness in the attainments of the pupils

whose lot it is to be in the care of the over-zealous teachers. This caution must be kept in view much more necessarily with reference to English than with reference to any other subject, as it is here that over-shooting is apt to do good deal of harm. To do profitable work in any language, especially in a foreign one, the teacher must bring himself down to the level of his pupils, or he must not attempt his work. No child can acquire a language, if the mother talks in a style too high for it.

A syllabus of English Language once prepared, may not have to be very much altered, year after year, as the nature of the subject which is always the same does not require thorough alterations. But it may be necessary that in the light of new experience or as suggestions come from experienced teachers, either from the school or from outside, profitable alterations may have to be made in the commencement of each year. This must be done without delay, before the first term commences, at a meeting of the teachers of the school after careful discussion. The syllabus of studies in English Text which changes year after year must necessarily vary, but the teacher must take the trouble of reading all the selections for the year and preparing a syllabus that can cover up the whole year's work. Though, each year, a new syllabus will have to be prepared of the text portions, common principles can be laid down in broad outlines for guidance in the preparation of English Text Syllabuses which must be the same year after year. With a syllabus previously prepared whether of English Language or of English Text, the work of the teacher becomes easy. He has for his daily work to prepare beforehand notes of lessons containing detailed information on each heading of the syllabus. The books consulted for the preparation of the syllabus for the whole year must be mentioned at the commencement of each syllabus and those consulted for daily work, with the number of the page and the paragraph or paragraphs, must be marginally noted against the daily notes of lessons. When new books are received, containing new information, the new facts should also be noted then and there. When

syllabuses and notes are thus prepared and renewed year after year, the English work, whether in the Text or in the Language, cannot but be performed with perfect satisfaction.

The general syllabuses issued by the Department and the hints to examiners issued by the University must be taken up and discussed at the school-council of teachers and suitable alterations made, if found necessary, so as to suit the needs and conditions of the school. And it must be apportioned for each class, the details of which must be filled in by the teacher in charge and brought at the next meeting of the council of the school staff for being passed after discussion.

All the advantages of the up-to date progress in the teaching of a foreign language must be utilized in the preparation of the syllabus. But at the same time it is not wrong to bear in mind that, here and there, the zeal for a hobby may have outrun the limits of discretion and the school-council or any teacher preparing a syllabus must use the necessary corrective, where instances of over-zeal do occur.

In the hints and suggestions under the heading "Methods of Teaching English" it is said that all English teaching should be correlated; the reader or the text should be the centre from which conversation, composition and grammar should radiate. While this principle should be accepted as of general application, it has a special value in preparing a syllabus for the lower classes up to the Second or Third Form. The old method of teaching formal grammar according to a prescribed text-book must be given up. Grammar as a subject of instruction must not find a place in the syllabus, except such general principles as will be employed in connection with the teaching of the text, conversation, composition or translation.

The most modern method in the teaching of a foreign language is, as we all know, what goes under the name of the "Direct Method." This is pithily described in the hints and suggestions as "the method which endeavours to connect English words directly with the objects or ideas represented by them, rather than indirectly through the vernacular. In it least use is made of the

vernacular." This of course is the most natural method but it involves a good deal of trouble and patience on the part of the teacher who must be a person well conversant with the first principles of the English Language, able to converse in it with the simplicity and the homely grace and idiom that may be expected of an average English mother or governess in charge of children. Of this description is the ideal English teacher of the lower classes that the direct method contemplates. But though such teachers are not generally to be had for the average pay they receive, yet, none is precluded from making an honest attempt to improve himself so as to rise up to the ideal. In the employment of this method the teacher must see that he does not carry his hobby to a ludicrous extreme which might retard instead of accelerating the progress of the pupils. That would probably be the most useful method where vernacular and even translation is employed wherever indispensable with adherence largely to the direct method. In a given circumstance such methods should be employed, whether direct or through the intermediate help of translation, as are found unmistakably helpful in quickening progress. From these considerations it will be seen that there need not be a separate syllabus on language or grammar for the lower classes but such general principles of grammar as are desired to be taught in each stage must be conveyed through the text. It being understood in a general syllabus of grammar what general principles should be taught in each class, these should be introduced in suitable places as illustrated by the construction of sentences or forms of sentences occurring in the text selected. There may be a syllabus on formal grammar Fourth Form upwards.

On the subject of writing the present tendency on the part of Inspectors is to disfavour formal copy writing according to the forms given in a graduated series of copy books, but to teach it by the children being made to imitate the teacher while he writes the words learnt in the book on the black-board. This will be a good method if the teacher himself knows to write methodically and well. But it is a risk in which the

chances are that the child's writing may be permanently deformed by being placed under a teacher who is unfit for the task. I endorse every word which the hints and suggestions say that "in the lowest class mere copying of words and phrases taken from the composition and set upon the board by the teacher would be sufficient. It is suggested that before writing with the pen on paper, writing with chalk on rough paper fastened to drawing boards on wall-space or on slates should be practised. It is suggested that at no stage is transcription necessary. Neat hand-writing may be demanded in all written composition." Yet, for the reason already stated and because it is seen that writing systematically taught either by an able writing master or writing under wise guidance according to forms in copy-books distinctly and quickly improves writing, graduated series of copy slips may be mentioned in the syllabus, but, instead of separate numbers being prescribed for each class, copy-books may be prescribed in separate sets for each department of a school, each form or class being divided in sections for using numbers of a series according to the degree of advancement of the several sections in hand-writing. As far as possible vertical hand-writing should be preferred as the tendency of our boys is to write in too much of a slanting hand which takes away largely from both plainness and grace which are the characteristics of a vertical hand. It must be demanded that copies should be written from the bottom-most line upwards.

Grammar teaching in the lower classes must be through translation from the vernacular into English. Translation and grammar must always go together. The haphazard system of proposing any form of sentence for translation without guidance of any kind being afforded to the pupil is worse than useless. It takes unusually long for pupils to acquire correct expression even of simple ideas by sentences being proposed off-hand. Neither could a vernacular reader be used in the early stages for this purpose, for the

obvious reason, that grammatical constructions vary from sentence to sentence. Basing translation on gradually developing grammatical principles enables the teacher to kill two birds at a stroke. Obviating the teaching of formal dry grammar it enables the teacher to inculcate grammatical principles unperceived by the most natural method of making grammar follow language. Facility is also afforded in this method to the pupils to compare and contrast English constructions and idioms with vernacular ones, a knowledge of which finds a place in the Matriculation Syllabus of English. What grammar is learnt through translation may be used for application in the English Text. While this is done what is said in the hints may with advantage be adopted "The class may formulate the rules of grammar in its vernacular and make its own grammar in note-books specially kept for the purpose. At the same time the choice of grammatical matter for study should be selected in accordance with the concentric plan. In making the selection only that which is essential for idiomatic composition should be chosen. All exceptions, obsolete forms, and unusual expressions might be learnt as they occur in the course of reading or conversation. Lists of exceptions should not be learnt along with the rules. Only at a relatively late stage should a grammar in English be employed, and then more as a book of reference than as matter for memorizing."

While teaching grammar primarily through translation, it is always advisable to begin with tenses of verbs. From experience I have found this the most successful method. The work in the Primary School may be confined to simple sentences of the Indefinite tense with all the possible variations in the forms of the sentence. And while the forms of the sentence are taught grammatical ideas regarding the parts of speech and the inflections of the parts may be incidentally brought in. The greatest difficulty is experienced in expression for want of knowledge

of the proper use of verbs and hence it is that this recommendation is made to obviate difficulties in the acquisition of powers of expression. After correct knowledge is acquired of all forms of the simple sentence in the Indefinite tense, other sentences and in other forms of tenses may be taught in the lower forms, for instance in the First and Second Forms of the Secondary School. Translation of narrative pieces may be taken up on a boy coming up to the Third Form.

English composition in the lower classes must be mainly oral and in the lowest classes can be only in the form of answers to questions, the teacher always insisting on full and correct sentences as answers. As pupils go higher up reproductions of the lessons read both orally and as written exercises may be insisted on. In Forms, two and three, reproduction of stories or descriptions once read distinctly in the presence of boys will give very useful training. Composition of short sentences may be greatly improved by pictures of animals and plants, or the available plants or other objects themselves, being held before the class. Formal composition, either narrative or descriptive, may be commenced in Form I or II and if systematically adopted, composition will not be such a night-mare as it is now to High School pupils. Pupils should often be practised in the writing out of composition and the teacher should not grudge the trouble of correcting exercises with the writer of the composition by his side. A scheme of studies should be prepared beforehand showing the work to be done in composition during the year. In this connection it may not be out of place to suggest that extra-reading should take no unimportant place in the work of the school. Books suitable to the lower classes should be gone in for; several copies of the same book should be kept in the Library to facilitate easy supervision of the extra-reading done during the week by pupils.

The general outlines detailed above have been kept in view in the following scheme of studies which I have prepared for the Primary classes and Forms I to III.

In the Infant Standard and Standard I alphabet may be taught by means of pictures or as kindergarten occupations by stick-laying, drawing and so forth. Though it is not consistent with modern method to take up formal teaching of the alphabet first, yet, if knowledge of it can be acquired without effort, there may be nothing wrong in adopting this suggestion. It is of course, necessary that children should be taken along the alphabet from the easier to the more difficult ones without the children themselves knowing of what use they should be in future.

STANDARD II.

English should be taught through conversation without the use of any Text-book. It will be enough, if, in this class, the teacher uses picture-lessons. The formal teaching of the alphabet, both printed and written, may come towards the close of the year.

STANDARD III.

A suitable primer should be used, such as will be of value in the adoption of the direct method of teaching. Mr. Yates' exercises, that will soon be out, may be probably the best book for use in the III class. Formal reading of the lesson, followed by dictation, may come after the ideas contained in it have been talked about in the class. Cramming of every description should be avoided. Except what comes as answers to questions accompanied by written exercises, there need not be any methodical exercises in translation or composition in the class.

Writing.—This must improve if it is insisted that whatever children write should be done legibly, neatly and gracefully. As already observed, formal copy-writing also should be encouraged. Characters should neither be slanting nor erect. The vertical strokes should be made to form an angle of 75° or 80° with the horizontal. The teachers may draw the characters on the board, which the pupils should be made to imitate as the teacher is drawing, stage by stage. If a copy-book is used it must be of the first two numbers and they must be written under the strict supervision of the teacher, who must

be all alert, correcting wrong strokes as the pupils are writing on. The lowest line in the copy book should be commenced first.

In class IV along with a suitable higher reader being used, translation and composition may be begun, adopting elementary grammatical principles. All the elements of the simple sentence in the three indefinite tenses should be taught by gradual and systematic development. Composition should be attempted by means of conversations on pictures found in the text-book or on the subject matter of the story read. Facility in reading may be secured by pupils being made to read in the presence of the teacher books which are now so abundant written in mono-syllabic words.

The syllabus for the 1st Form may be of the same type but a little more advanced in difficulty. In translation and composition complex sentences, easy and short, may be taken up. Short descriptive pieces of composition may be attempted. The most important rules of syntactical concord may be taught by application to the text or to translation. Extra-reading should be encouraged by easy books such as the single syllable *Æsop's Fables* being made books for compulsory extra-study.

In the Second Form all the tenses and all forms of sentences should be completed. The most elementary and main principles of grammar should be taught by their application to the text and translation. Pupils should be made conversant with the grammatical construction and parsing of words and with the analysis of sentences. In addition to the extra-reading of prose, for which the books for young folk by Mr. Stead or other similar books may be used, extra-reading of small poetical pieces also may be taken up.

The Form III, being the highest class of what was once called the Lower Secondary Department, it may so happen that a large number of pupils may discontinue their studies after their course in this class. The training in English in this class must be such as to enable the pupil to possess a knowledge of the language, sufficient

for the ordinary business of life. The training should be as if for Matriculation in simple miniature. Such of the principles of grammar as are contained in *Grammatical Primer* should be learnt. Simple idioms, forms of words, conversion of sentences, changes of speech, etc., should be taught. A scheme may be prepared of all the forms of composition that are necessary for business transaction in which a good grounding may be given. In addition to this, systematic training should be given in the writing of short descriptive or narrative essays and in the condensation or expansion of narratives. The teacher may read with boys a good number of easy poetical pieces, such as *Blithe Gilbert*, *John Gilpin*, *Casabianca* and so forth. Good number of stories like the *Forty Thieves*, *Cinderella*, *Aladdin*, etc., may be encouraged for extra-independent study.

The English work of the High School Forms hereafter is not to be what it has been hitherto. Width of reading combined with sufficient intensity and power of concise expression with idiom and grace is what is expected of candidates for the Matriculation Examination according to the new curriculum. The following concisely describes the portions in English to be studied for Matriculation and how they should be studied.

Two sets of text-books will be prescribed, one for general reading and the other for detailed study. Books for detailed study should be learnt from the point of view of subject matter, language and the elements of literary form. In the case of the books intended for general reading, it will be tested, whether candidates have reached a stage when they can master the contents of a reasonably easy and straightforward book, read rapidly, without any detailed study of linguistic structure and vocabulary. Answers which involve the previous study of elaborate notes on the text or the careful and detailed explanation of a teacher should not be expected. No questions on grammar should relate to any of the additional books, but it may reasonably be expected that the study thereof should have extended the candidates' vocabulary and knowledge of idiom.

NATURE'S VOICE TO MAN.

Under the auspices of the Students' Literary Society, Mr. W. M. Theobald, Principal of Stanes' High School, Coimbatore, gave a very interesting lecture on the "Voice of Nature to Man."

The lecturer divided his subject into three parts. First "Variety in Nature." He said as we looked on the face of nature we should see much that was beautiful as well as useful, but the variety of it was the great charm. The flowers were very beautiful, but without their bloom we should get no fruit. Not only have we fruit from flowers, but they brought joy and gladness into our homes. Many sick people have been cheered by the sight of a lovely flower and yet he said if all the flowers were red, though beautiful in themselves, we should grow tired of them. It was the variety of colouring that charmed us so much. He applied this to men as to their varied gifts. So many young students had one object in view *viz* to enter Government service, while perhaps the bent of their mind was fitted for something quite different. He quoted instances of great men, such as Watts, Edison, Livingston, Burns, Longfellow, Tennyson, who had made their names famous, and had at the same time done much for their fellow-men. It was not perhaps for the time being profitable for these men to strike out in new paths, but they felt they could not be bound to a life that was uncongenial to them, for the sake of present gain. There is a maxim which says, "Never sacrifice the future to the present," and although Government service may seem very attractive, yet there are other means of employment that would be more suitable and perhaps pay as well, if only the student would take a broader outlook on life.

The next point was "Nature in Incompleteness." The lecturer instanced this by a little sea-creature called a nauplius. It had an oval-shaped body, and six well jointed feet. It was healthy and strong and it might turn to a shrimp, crab or lobster. But soon the little creature found life too hard, and he looked about to see whom he could sponge upon. This he called a parasite.

Very soon two of his feet withered away he now had only four to use and with those he found out a hermit crab, another creature of his own class. The crab had preyed upon others and now it was his turn to be preyed upon. The little creature fastened upon him and drew his supplies from him to the end of his days. The lecturer said he had heard of hundreds of men, who lived every day much in the same way, for they were fed at the expense of others without the least exertion to themselves. And if we neglect the use of our limbs or cease to exercise our powers, whether mental, physical, or spiritual, we should soon share the fate of the little sea creature.

The lecturer said he had heard of pigeons that had been cultivated to such an extent that their plumage was perfectly elegant in colouring, but the same pigeons if neglected or allowed to live in the jungle, would very soon deteriorate and their descendants would be ordinary pigeons with just dull grey colouring. He said the same thing applied to the rose. If we had one of the finest rose trees and which produced the most lovely roses, perfect in shape and colouring and delicious in scent, that same tree, if neglected, in a short time would bear nothing but dog roses.

The lecturer further remarked that in the Mammoth Cave of Kentucky there were little crustacea whose bleached shells had two specks which naturalists for some time took to be perfect eyes. It was afterwards discovered that although the external eyes were perfect the nerves and inner portions of the eyes had entirely withered away. In that dark cave they had no use for eyes, and so nature was true to her laws and the eyes had become entirely useless. These instances in nature show us the necessity of continual self-culture. Otherwise deterioration must take place for there was no standing still in nature.

The third point was "Nature Strengthened by Loss." This sounds paradoxical, nevertheless it is a well-known fact. If we want a very fine specimen of a chrysanthemum we watch for the buds, and when we see a number on a plant we take them all off excepting one or two. All the

energy and strength would go to the flowers that were left, and the result would be very fine blooms.

And so it is with human nature. Troubles, trials and difficulties would come, but we must be like the flowers bend all our energies to the many good things that are still left to us, and not be cast down by failure. He applied this especially to the students who had lately taken the examination for the F. A.

The lecturer said that a friend of his was master of a college, and he made it one of his aims to teach his students how to fail, or rather to take failure. He then closed this very interesting and instructive lecture by quoting the following beautiful and appropriate poem—

Did you tackle the trouble that came your way
With a resolute heart and cheerful?
Or hide your face from the light of day
With a craven soul and fearful?
Oh a trouble's a ton, or a trouble's an ounce,
Or a trouble is what you make it,
And it is n't the fact that your hurt that counts,
But only—how did you take it?

You are beaten to earth! well, well, what's that?
Come up with a smiling face.
It's nothing against you to fall down flat,
But to lie there—that's disgrace.
The harder you're thrown, why, the higher you bounce;
Be proud of your blackened eye;
It is n't the fact that you're licked that counts,
It's how did you fight and why?

And though you be done to the death what then?
If you battled the best you could,
If you played your part in the world of men,
Why the critic will call it good.
Death comes with a crawl, or comes with a pounce,
And whether he's slow or spry,
It is n't the fact that you're dead that counts,
But only—how did you die?

MRS. BESANT ON "THE OBJECT OF EDUCATION."

THE fifth annual Teachers' Institute and Demonstration by the Masters of the Olcott Panchama Free Schools was held on 21-12-08 under the direction of Mr. R. G. Grieve, M.A., Inspector of Schools, 3rd Circle.

Mr. Grieve said he had very great pleasure in welcoming a lecturer who was known to them all and who had done long work in Madras and other parts of India.

MRS. BESANT'S ADDRESS.

Mrs. Besant said that when she was asked to come and speak at the opening of the Teachers' Institute this year, she was glad to respond to the invitation, for the work of education was one which all good citizens must necessarily take interest in, and it was necessary that that work should spread through every class of the nation so as to weld all classes into one united and harmonious whole. Coming only a few days back from Benares where in the Central Hindu College they were educating some thousand boys, coming last night from Vellore where she went to distribute prizes at a school which was affiliated to the Benares College for religious education and coming thence to this gathering of teachers, she could not but feel how that work was spreading over the whole of India and touching class after class with its beneficent influence. She would begin by reminding them that in ancient India and in modern countries of the West, the work of a teacher was regarded as one of the most important offices in the State. In ancient India, to be a teacher was to have a claim to the reverence of the community. In modern Western countries, the position of a teacher was rising higher every year in popular respect and popular regard, and rightly so. On those into whose hands were placed the plastic materials of children's minds and children's hearts must depend more than upon any other class, the welfare of the State. Those who later might take up the work of preaching religion, of teaching political action and guiding the ship of the State

would all depend on the teacher for the success of their work, for according to the materials which the teacher supplied, so would be the powers which people could exercise over the mature citizens of the land. Hence it was right that teachers should respect their office and realise its great responsibility and high influence. No office could be permanently respected save as those who filled it were worthy of honour and save as those who occupied it lived up to the height of their responsibility and of their duty. The object of education might be put in one sentence, *viz.*, to turn out noble men and noble women. That was the primary object of education. The notion that some people had which led to the degradation of the teacher's office was that the object of education was only the passing of examinations and that the examinations were in turn avenues to learned professions or Government employ. Where that was regarded as the object of education, there was no reason why the teacher's office should be specially revered. Simply to turn out men as good Government servants, as good pleaders and good doctors was an honourable thing certainly, but not the higher duty of what they called a teacher. The teacher was bound to see that every part of nature of his charge was rightly and harmoniously developed, and if he thought only of examinations and cared only for percentages of passes, he was dealing with only one part of nature instead of concerning himself with the evolution and unfolding of the whole. The bodies of pupils ought not to be neglected, but they ought to be trained so that they might be vigorous, strong and healthy. They ought to teach growing boys and growing girls the primary duty of cleanliness of garments and cleanliness of all the surroundings of the home, and especially those of the teachers who had to deal with the poorer and the less cared for population, should realise the importance of the physical side of the training that they gave. If they trained their children in physical cleanliness and physical self-respect, they would send them out as missionaries

to the homes whence they came and they might influence the whole condition of the poorer population by the influence of the children who would go back to them from the schools. Not only they teach the primary duty of respect of the body in the matter of cleanliness but it was also the teacher's duty to make children understand how vital for health and vigour of body was cleanly living in other matters than the body itself and clothing. Teachers should teach children to take only such articles of food as tended to build up healthy and strong bodies, and they should particularly teach children to abstain from every form of alcoholic liquor which was a poison to all bodies and most especially to eastern. It was important now because unfortunately in the higher castes of this land, the drink habit was spreading. Unfortunately, as they knew from Custom House returns, more and more of the poisonous liquors of the West were being brought over to the eastern land and were injuring the bodies of many leaders of Indian society. It was theirs to set a good example, and if they were beginning to set a bad example to the young, then the teacher should step in and correct the mischief which otherwise would spread further. Teachers could strengthen their instruction by medical advice and evidences of the strongest kind. Alcohol was mischievous enough in the body of man and it was tenfold worse in the body of a child. This duty of a teacher would not have been necessary a century ago, but it was now a part of the duties of a teacher here to make children understand the dangers of drink habit.

Regarding the method of teaching the lecturer said she had a suggestion to make. She was inclined to think that the teaching of objects was now being overdone, as at one time it was neglected and left too much on one side. It was well to train the senses of the child by accurate observation, but they should not forget that within the body of that child there was a mind which had come down from life after life and had brought with it many a faculty, sleeping in the child's consciousness but waiting to develop into vigour and activity of manifested life.

She did not believe that they were teaching children wisely where they did not occasionally put before them things which they did not immediately understand. She believed that the child's mind like the mind of man or woman was all the better for having now and then to grapple with a difficulty which was a little beyond the faculties which at the moment were undeveloped. There was a danger in the enthusiasm for the Western method of object teaching of losing sight entirely of one valuable part of ancient teaching in this land which gave to the child certain thoughts, certain formulæ which were not thoroughly understood at the time but remained in the child's mind to work upon and help to develop faculties by the stimulus of the thought not thoroughly grasped. She would venture to suggest for their consideration at least where in the midst of their Kindergarten methods of object teaching they would not slide in here and there a thought as well as an object, whether they would not suggest to the child's mind some of those larger concepts which played so great a part as the intelligence developed in their thinking and whether they might not from time to time suggest, even if they did not press to any extent those larger thoughts of which the objects were partial embodiments, so that out of the observation of the concrete object the child's mind might rise to a conception of that which was not concrete but which stimulated the higher faculties of intelligence.

Passing from the intellectual training, the lecturer turned to the most important object in education, *viz.*, moral and the religious. Religion and morality were taught in two ways, by precept and more strongly by example. Idle was the precept of the example if the example did not bear it out, and the first way of training their charges well in religion and morality was by showing them a high example themselves of the qualities which they desired to cultivate in their youthful characters. The teacher who lived the religion, the teacher whose life was an example of self-sacrifice, of purity of the highest

human qualities was the teacher who would best impart the spirit of religion and morality to those who clustered round him. Religion was not a thing for half an hour's teaching. Religion was an atmosphere which should be breathed by the child during the whole time that he was under the teacher's influence, and although it was absolutely necessary that precept should form part of the teaching even more vitally necessary it was that the teacher's life should give the atmosphere of religion, so that all the teaching might be consecrated from beginning to end and so that the spirit of religion might permeate every lesson given by him. So also with morality. Certainly, teachers should give moral precepts to the children, and certainly should they teach them by words the duties that they owed to their country, to their sovereign, to their town, to their family. But those lessons would fail of their due influence unless the scholar saw in the teacher's life the exemplification of the precepts, of the morality which he gave in the morning lesson. That religion and morality should form part of their school curriculum was the most important thing in the problems of education of the day. If it was to be outside the school curriculum and made only a voluntary subject which the children might come to or not as they liked, they inevitably degraded in the children's minds the place that religion and morality ought to occupy and rule supreme. The object of education which was to form a noble character could not be achieved unless religion inspired and unless morality was the guiding influence of life. It was idle to try to separate moral instruction from religious inspiration. They already saw enough results of education unaided by religion and they saw how lads grew up without any sort of stable foundation on which their lives could be based. Teachers should send out of their schools good men and good women as mature citizens of the country, men worthy to take part in the nation's life, women worthy to stand beside their husbands, sons, and daughters, as their guides and daughters, as their guides and councillors, their wisest and truest friends. Such then was the object of education. If they recognised the responsibility

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of their high office, then they would raise the teacher's office to the high post that in old days it occupied and they would become a nation of teachers who exemplified in their lives the virtues of the religion that they inculcated in the schools where they laboured. In conclusion Mrs. Besant said:—

"May that spirit of religion, may true inspiration, may the self-respect that comes out of the knowledge of high duty and the sense that it is worthily performed, may those brood over all of you as you are trying to improve yourselves to fill the places to which you will return and may you carry back to every school to which you go when you leave the Institute new lessons and knowledge, but above all a newer and higher inspiration so that you may carry a blessing thither which you may have here received and become leaders of your country as the teachers of a nation should be." (Cheers).

THE SCIENCE OF COMMERCE.

PROFESSOR LEES-SMITH'S SPEECH.

The following is the full text of the speech delivered yesterday by Professor Lees-Smith at the Industrial Conference in connection with the institution of Faculties of Commerce in Indian Universities:—

Mr. Chairman and Gentlemen,—I have eagerly seized the opportunity to address this Conference, because I was intending in the course of a few days to put certain proposals before the public of India through the medium of the press: I am going to take the opportunity afforded by the publicity of these proceedings to make the proposals here. First of all, to speak of the general question, the problem which you have to consider is would you take your place in the march of manufacturing nations? What type of men do we want our business-men to be and our commercial leaders to be? Now, the old school of commercial men give to that question a very simple answer. They say we want a practical

man. We want a man who goes into office at the age of 14, who spends a year or two there, who then rises from one rung of the ladder to the other, until finally he is a thoroughly business-like commercial leader, because he knows practically every part of the business. Now, our answer to them is this. You mean then that your commercial leaders are to be only half-educated men, that they are to be so immersed in practical details from the age of 13 or 14, that they know little or nothing outside the technicalities of their business. We have another type to be put before you. Our claim is that the leaders of commerce and business need to be scientifically trained just as a doctor, or a barrister, or a professional man is. Why has it always been taken for granted that a business man need not be an educated man in the same sense as other professional men are, because of the fact referred to by your President in his opening address yesterday—because the qualifications required for business have always been regarded as commonplace. Now, sir, modern experience shows us that business requires administrative capacity of the very highest type. It needs not merely technical knowledge, but it needs the power of dealing with new situations, of going forward at the right moment and of controlling labor. These are just the qualities which Universities have always claimed as being their special business to foster; and we therefore say that if you are going to fulfil any of the hopes which were held out yesterday by your President, if you are going to take into your own hands the control of the commerce of this nation, then you must produce wide-minded enterprising men of initiative, men who are likely to be produced by the University Faculties of Commerce. Now, there is one point which I shall make clear, and that is that the training in a University Faculty of Commerce is not divorced from the practical life of business. The University Faculty of Commerce is intended, of course, to train the judgment and to mould the minds of men. It has claimed that,

although it must give primarily a liberal education, it is possible to give that education which has a direct and practical bearing on business life. I am not going through the curriculum, but just imagine to yourselves a young man of age, say, of 21. If he has been an intelligent student in a Faculty of Commerce that young man at that age will be able to enter into the most intricate financial discussion. He will be able to follow the fluctuations in the foreign exchanges and to analyse the reasons for them. He will understand the organisations of all the great industries. He would be able to write a good business letter in English and one other Foreign language. He will have to study the sciences which bear upon the industries in which he is likely to be engaged. He will have examined all the tariffs of different nations as also their trade. I claim, although such a man has never been a day in an office, he will have, at the age of 21, an amount of knowledge which an ordinary business man is only able to obtain after years and years of experience. He will understand scientifically many of those phenomena which ordinary men of commerce only understand dimly, because they have never entered into the reasons behind them. That kind of man has immense possibilities in the world of commerce. He is the kind of man on whom you must depend to lead you in the industrial march in the future. On him you must depend to free you from the domination of employers and capitalists of the British race.

Well, I now wish to turn to a different subject. It is connected with what I had said, but it deals with a matter which it is not my special business to lecture upon for the Government of Bombay and which I therefore wish to ventilate here. We are imposing British institutions upon this ancient civilisation. It is a vast experiment, and it is going to be watched by exceedingly keen and critical eyes during the years which are immediately before you. Now, I and others in Great Britain have been impressed, when we saw what was coming, with the

profound necessity of allowing a certain number of those who are going to control the institutions which have been conferred upon you, the opportunity of studying there, working in Britain itself at first hand. Now, let me make two qualifications. I do not mean that you are not to send your sons through your own Universities. They are the Universities which understand Indian conditions. They are the Universities which it is your duty to support, but what we claim is something smaller than that, something which will supplement University education. And there is one other qualification. I speak of conferring British institutions upon this ancient civilisation. Whatever the future may hold out for you, I think there are few thoughtful men who wish you to adopt British institutions without modifying them to suit your own requirements. You have a genius and civilisation of your own. What you need to-day is to take the institutions of Great Britain, modify them and adopt them to your own capacities and needs, so that finally they will not be British, but they will be truly Indian institutions. Now, let me come to the subject. I want while I am here to persuade a number of the leading Indian gentlemen in view of the movement which is ahead of you, in view of your duties in the future, to send their sons to Great Britain not for University education, but even for the space of a few months to study British institutions and British life, study them in the land of their birth. You will find that if you do so, although the time may be short indeed, the mark of Britain will be on them for the rest of their lives. They will never be the same men again. Now, we come to certain difficulties. There is some danger of going to a country like England for a few months, say six months as you might do in India, and leaving the country at the end of it about as ignorant of it as when you came. Now, I am going to put a definite proposition. I have come to this country as an emissary of an institution known as the London School of Economics and Political Science. In that institution is concentrated the economic and political teaching of

the University of London. You will see that owing to its position as the great centre of economic and political teaching at the head-quarters of British Government, it is in touch with all public institutions and public men from Prime Ministers, Peers, Trade, Union leaders, and Socialist agitators. On its governing body is a man whose name will always be famous in the annals of this land—I mean Sir Courtenay Ilbert. I imagine some of you younger men may consider that Sir C. Ilbert is a figure of the past, but in point of fact I was myself associated with him as an examiner in the London University barely a month ago. The proposition is this. If a number of these young men who are likely to be engaged in working these institutions are sent for a few months across to England, special arrangements will be made to guide them and teach them by the authorities of the London School of Economics. That is we shall not leave them to merely attend the ordinary classes. It is my particular object that, as one of the results of my visits to this country, we shall get into touch with India. Therefore, we should make special arrangements, we should organise special lectures, and we should organise special classes for them. We shall endeavour to explain British Institutions and British life as they really are. We shall try and give them first-hand information and send them on visits to various institutions, and we shall take care that they are explained to them by men who are actually engaged in conducting them. We are in a position to introduce them to the most representative Englishmen of every school of thought and position. Now, sir, I believe that if you can have even a small proportion of men trained under these conditions and give them a few months' experience of this sort to work the institutions which have been conferred upon you, it will mean an immense amount to the political development of the next few years. It will do much to smoothen the way and to facilitate the working of the reforms that have been granted.

Any one wishing to follow what I have stated should write to me to the care of the Government of Bombay. Then immediate steps will be taken to carry out the arrangements which I have outlined.

OUR ENGLISH LETTER.

LIVERPOOL, November, 1908.

Just at the moment negotiations are proceeding between the chief parties concerned in the Education controversy. Last week there was a conference of Bishops at Lambeth Palace. Steps were taken to bring the Anglican stipulations down to an irreducible minimum. Since that time the Archbishop has been in Conference with representative laymen and a few days ago conveyed in a letter to the Government a statement of the Ease from the Anglican point of view. Mr. Runciman has also been in touch with representatives of the Non-conformists. It is understood that Mr. Scott Lidgett and Sir George White have had long interviews with him, and that the Non-conformist position has been laid down in black and white for the consideration of the Cabinet. It remains to be seen whether the positions are reconcilable. The reading of all the correspondence would make one even forgetful of one's breakfast, but it is not yet known whether it will be deemed advisable to make it public. However we are living in an age of revelations, even if the days of miracles are past. And what has already leaked out does not make us very hopeful for a final settlement. It is said that the Primate has practically offered to surrender to the public authority the Church schools in the single-school districts which have been the crux of the whole question and the source of an undoubted grievance on the part of the Non-conformists whose children, forced to attend the school have been taught at their fathers' expense to despise their fathers' religion (we state of course an extreme case). In return for this concession

compensation is required in the form of the right of entry into the existing public schools. Herein we may be allowed to point out Dr. Davidson, Arch-diplomatist as well as Archbishop, shows the wisdom of the—statesman. The number of Church schools is decreasing and bound to decrease still further. Private enterprise is bound to be replaced by public enterprise, and thus it is even more to the advantage of the Church to secure a foothold in the growing area than to retain her place in the diminishing area. She will cease to speak so much of her past services and begin to look more to her future opportunities. And this is the path of wisdom. But it is doubtful whether this solution will be entertained for one moment by the other party to the controversy. It is doubtful whether the association of the 'single-schools' with the national system would not be too dearly bought at the cost of importing the disturbing denominational element into the main body of the public schools of the country.

We should dearly like to see a Round Table Conference of three—the Archbishop and Mr. Scott Lidgett as plenipotentiaries to treat with Mr. Runciman. Both these men are Moderates and desirous of a fair settlement, and it would certainly be possible to evolve a system which would command their approval. But we fear the irreconcilables in each camp will prevail, and we shall be left with the task of galvanizing that cold corpse—Mr. McKenna's Bill. All virtue has gone out of it. In the weary months that have passed since its introduction its supporters have lost their ardour and the attacks of its opponents have gained momentum. The Educational objections to 'contracting out' are very strong. It satisfies neither party and is admittedly a *pis aller*. But the Government are pledged to this solution if attempts at a friendly solution fail. So we may perhaps find this old Bill sent up to the Lords before many weeks are gone, as Education has second place to Licensing in the Session's pro-

gramme. Then there will be more trouble as the Lords make holiday in butchering it, and so the weary farce will drag itself out. We hear no more mention just now about an attack on the Lords. The movement died with the death of that great Radical, the late Premier. We were fortunate enough to hear his last public speech, in the Colston Hall, Bristol. The Lords and their misdeeds were the burden of his speech, but Mr. Asquith has shown no signs of following his predecessor in the field of agitation.

Dr. Edward Caird died last Sunday. No words of ours are needed to remind the readers of this Review of his distinguished career as a teacher. He had been twenty-five years in the chair of Moral Philosophy at Glasgow before he went back to Oxford as Master of Balliol. He did not attempt to fill Jowett's place in the University world, but Balliol could not have secured a man who would have served the College better than Caird did. His lectures were an unfailing stimulus to all students of Philosophy in the University, and he was a perfect master in the wide field he covered. He took himself seriously, and in this too he found apt pupils in Balliol. His Gifford Lectures on the Evolution of Theology made him known widely in other than academic circles. Without the striking popular gifts of his preacher brother, Dr. John Caird, who for a long time was Principal at Glasgow, he exercised a greater influence on the thought of his time. He was one of the best of Scotland's many gifts to Oxford and to the world. He died at seventy-three with his work done.

Oxford will sorely feel the loss of the Principal of Mansfield. Dr. Fairbairn was elected first Principal of the new College whose buildings and grounds are certainly worthy of their surroundings. And despite the suspicion with which the new College was regarded in University circles. Dr. Fairbairn won for himself almost a unique place in Oxford. He might almost be described as the leading religious force in the University. His intellectual attainments were sufficient to win him a hearing, and his powers

of speech were overwhelming. His wealth of argument was only equalled by his wealth of verbiage. To follow him in a sermon was a feat of mental gymnastics: to follow him in a philosophical argument was only given to the few bright philosophic spirits. It was not that he was obscure either in thought or language, but rather that one's own dull mind was dazzled by the excess of light. He was much in request at Philosophical Discussion Societies. His resignation has come at the right time, before his powers have failed him. It was indeed beginning to be whispered that he was growing more diffuse than ever, and was becoming the despair of the neophyte. But his reputation was never higher, and he has certainly established the position of Mansfield. We hear rumours that the minister of a certain Congregational Church in Cambridge is to succeed him. *Di Meliora!*

Oxford has gained a brilliant accession to the ranks of her professors in Gilbert Murray. No one would depreciate the man he succeeds, a man of extraordinarily accurate scholarship and a European reputation (we believe 'European' is the correct epithet in these cases). But Professor Bywater could never wield the influence that we shall expect Gilbert Murray to possess. Professor Murray is a man of striking personality and a brilliant Grecian who has done more than study the Classics. Picture to yourselves the spectacle of a Professor of Greek who is known by name and by person to the members of the O.U.D.S. Could imagination further go? And yet this fancy is to prove fact. *Quid plura?*

Full reports of the Moral Education Congress will have reached you. They make interesting reading. The vexed question was the place of religion in Moral Education. Could it or could it not be dispensed with a dictum of the Bishop of Hereford is worth noting—"Give us religious teachers, and we need no teaching of religion in our schools." The morning in which this matter

was more particularly discussed seems to have been of the most successful sessions of the Conference. Co-education was also discussed, without much possibility of a consensus of opinion appearing. The chief virtue of the Conference was the admirable temper shown on all hands and the evident respect with which sworn opponents were ready to listen to one another's arguments. When teachers understand one another and one another's principles as well as their own, we shall be on the way to better days.

Reviews and Notices.

LESSONS IN ELEMENTARY CHEMISTRY, ADAPTED TO THE SYLLABUS OF THE NEW REGULATIONS WITH 197 ILLUSTRATIONS, BY P. LAKSHMI NARASU, B.A., ASSISTANT PROFESSOR OF PHYSICAL SCIENCE, MADRAS CHRISTIAN COLLEGE. SRINIVASA VARADACHARI & Co., 1908. PRICE 12 AS.

The recent University regulations in connection with the Matriculation Examination make large departures from the regulations heretofore in force; but in no subject has there been so much departure as in Science. Definite syllabuses have been framed both in Physics and Chemistry by which a sure line of work has been chalked out for the teacher and the chances of vagaries in the examinations minimised. In spite of these advantages, High School teachers were not much the better for them for want of suitable text-books of Physics and Chemistry fully answering the requirements of the new syllabuses. The Matriculation Physics by the same author, that was published a few months ago, was a real boon to the teachers and High School pupils alike, and this very useful publication has been closely followed by a 'Text-book of Elementary Chemistry' from the pen of the same learned author. We are sure that there can be no two opinions regarding the fact that there is no Indian Scientist of the Madras Presidency so eminently qualified as Mr. Narasu, to write Text-books of Science for Indian boys. It must be conceded that Text-books of Science for Indian students at any rate for Matriculation candidates who, according to the University syllabuses, are required to have a knowledge of "the applications of physical and chemical facts and principles to experience in

ordinary life" cannot so well be written by a non-Indian author as by an Indian author of the learning and experience of Mr. Narasu's type. The lessons in Elementary Chemistry, the book under review, fully and adequately satisfies all the requirements of the University syllabus; while giving full information on every item of the syllabus, it forms a series of pleasant and easy reading lessons very well suited to the youngsters for whom the book is intended. In addition to the experiments to which teachers and pupils of High Schools have hitherto been accustomed, it contains a large number of simple and homely experiments which can be performed by the pupils themselves with the apparatus of their own construction. This is exactly what is wanted by the University, which rightly insists on practical applications of the theories learnt. Good many instances of the apparatus of simple construction of the author's own device can be given, but it is unnecessary to refer to them here as the book now before the public will speak for itself. While treating of the chemicals, whether simple or compound, the learned author refers to the localities in India where they are found and describes in what form they are found, under what names they are known in India, and to what uses they are and can be put to the daily life of the Indian. In the descriptions of the experiments the author gives all the precautions necessary for the successful performance of them. Any one that reads the book cannot but be struck with the admirable skill and the pre-eminent ability laid under contribution by the author to make his book the most practical one on the experimental science by simple and fully illustrative experiments calculated to create interest in and arouse enthusiasm for the acquisition of scientific knowledge by youngsters. The list of practical exercises for students in Appendix I is very valuable and in it as well as in the cautions given in the body of the book, the author has fully anticipated the experimental work which High School teachers are required to perform in the course of the University Lectures. The model questions and problems in Appendix II and the index given at the end of the volume for reference add to the usefulness of the volume. The get-up of the book is all that it ought to be and the numerous illustrations are, one and all of them, admirably done, quite as well as any English Firm, and reflect great credit upon the well-known publishers, who have always deservedly held a prominent place among the Publishers. Considering the size of the volume, and the value of the matter, and the numerous illustrations it contains, the book is priced sufficiently low so as to bring it within the

reach of all classes of pupils. We gladly accord to the publication a hearty welcome and wish it all the success and popularity that it so richly deserves.

ELEMENTARY ALGEBRA. BY C. H. FRENCH, M.A., AND G. OSSORN, M.A. CAMBRIDGE: AT THE UNIVERSITY PRESS, 1908.

This book includes common logarithms and the binomial theorem for a positive integral exponent, so that it covers the ground of the Intermediate Examination of Indian Universities. The exposition is good, and the style is simple. A list of definitions is given for reference at the beginning of the book. It contains numerous examples of a varied character, many taken from examination papers set at Cambridge. The arrangement of the examples for revision in sets of ten is a feature to which authors draw attention. We have no hesitation in recommending the book to Indian teachers and students.

MONTAIGNE AND EDUCATION OF THE JUDGMENT. BY GABRIEL COMPAYRE, TRANSLATED BY J. E. MANSION, LONDON. GEORGE G. HARRAP & COMPANY, 1908.

Though Montaigne lived in the sixteenth century, yet he anticipated in various directions the educational reformers of to-day. His bitter complaint was that the education of his day over-estimated the training of the intellect but overlooked moral training. "If the child's soul is not put into the better trim, I would as soon see him playing tennis as studying." "The soul is not a vessel that requires filling; it is a hearth to be warmed." Although thoroughly conversant with Latin, he wanted the mother-tongue to be placed before all other languages. "I should like in the first place to be thoroughly conversant with my own language and that of my neighbours." He had no love for grammarians, and advocated that the study of dead languages should be simplified and made easier, with a minimum of grammar. Montaigne was thoroughly impressed with the fact that the physical and the moral being are closely bound up in each other. "We should order our soul, not to stand aloof and despise the body, but to rally to it, to embrace it, cherish it, assist it, control it, advise it, to take it for a mate, in short, that their effects

may not appear different and contradictory, but uniformly agree." "It is not a body nor a soul that you are training but a man." He would do away with corporal punishment. "I have never seen the birch have any other effect but to make souls more craven and more maliciously stubborn." Montaigne dreams of educational establishments, whose walls would be adorned with the pictures of "Gladness and Joy, of Flora and the Graces." He would have approved of the effort which is being made at the present time to provide schools and class-rooms with a cheerful and artistic setting, which surrounds the child with an atmosphere of beauty. Montaigne was imbued with the spirit of the intuitive method: "Let a child's fancy be encouraged toward a seemly interest in all things. Whatever striking objects there may be around him, let him see them: a building, a fountain, a man, the ground of an ancient battle, the spot where Cæsar or Charlemagne passed." He was the first to suggest that in the study of history the explanation of the events and a reasoned acquaintance with the characters, are of greater importance than dates or facts. "Let the master bethink himself whereto his charge tendeth, and imprint not so much in scholar's mind the date of the ruin of Carthage, as the manners of Hannibal and Scipio; not so much where Marcellus died, as why it was unworthy of his duty that he should have died there; let him teach him not so much to know histories as to judge of them." These quotations from the *Essays* of Montaigne are sufficient to prove the modernness of his views. That Gabriel Compayre has made a valuable contribution to the study of the pioneers of education by his exposition of Montaigne needs no saying. We give the book a hearty welcome and strongly recommend it to teachers in India.

PRINCIPLES AND METHOD IN THE STUDY OF ENGLISH LITERATURE. BY WILLIAM MACHPERSON. CAMBRIDGE UNIVERSITY PRESS, 1908. 2s. NET.

Written as it is, by a schoolmaster primarily from a teacher's point of view and with special reference to the mental growth and requirements of pupils in secondary schools, the little treatise before us aims at stating the logical and psychological principles that underlie the study of English literature and illustrating the methods of teaching that follow naturally from them. As, however, the author has also kept before himself the practical aim of showing how English literature, as it appears in the works of the best writers, may be effectively studied and rightly

appreciated, the book is bound to appeal to a much wider class of readers than those for whom it is primarily intended. After two chapters dealing respectively with the logical and psychological basis of literary study in schools and with general method, the author devotes four chapters treating severally of the study of fiction, the essay, lyric poetry and the drama. These four chapters will be found of great use by the general reader as well as the teacher. The author well succeeds in bringing out what is one of the main themes of his little book that "viewed from the standpoint of its subject-matter, the essential function of literature is to enlarge the scope of our ideas and sympathies, to enrich and develop our human nature, to teach us to see and appreciate rightly 'the varied spectacle and drama of life.'" We have no hesitation in recommending the book to all interested in the study of English literature.

A HISTORY OF INDIA FOR HIGH SCHOOLS AND COLLEGES. BY E. W. THOMPSON. CHRISTIAN LITERATURE SOCIETY, LONDON AND MADRAS, 1908.

Last month we had the pleasure of noticing with approbation in these columns the publication by Thomas Nelson & Sons of Dr. Prothero's School History of Great Britain and Ireland. We make bold to say that the book before us is worthy to rank with Dr. Prothero's work as a conscientious attempt at narrating the salient points of the History of India in a compendious form for the use of scholars in High Schools and Colleges. Within the compass of about 400 pages the author has contrived to give in a simple yet scholarly and interesting style a vivid account of the vicissitudes India has passed through from the earliest times of recorded history down to the present day. The chronological table of events at the end of each period is of great use. Unlike Dr. Prothero's book the present one has an excellent index. We are also glad to add that the general get-up of the book reflects great credit on the printers (Wesleyan Mission Press, Mysore) and publishers.

A BOOK OF VERSE FOR BOYS, AND GIRLS, COMPILED BY J. C. SMITH. OXFORD: CLARENDON PRESS, 1908. 1s.

In an interesting and excellent preface, the compiler discusses the principles on which an

anthology such as the one before us should be made, and sets out the aims he has kept before himself on its compilation. As he well puts it, "poetry is not a means to anything. It is one of the simple goods of life, and no more needs to be vindicated than the contemplation of a sun set or the intercourse of friends." At the same time, as the compiler justly contends, in a selection of poetry avowedly intended for boys and girls, "the moralist must stand at the gate of our Paradise, and admit no poems 'but such as breathe content and virtue.'" The aims have been carefully kept in view throughout the selections, which are happily chosen and arranged. The book is neatly printed and cheaply priced. It is well-suited for use in our High Schools.

INDEXING AND PRECIS-WRITING, BY G. B. BEAK, LONDON: MACMILLAN & Co., 1908. 2s. 6d.

It is unnecessary to dilate on the importance of precis-writing in Government offices or in the departments of commerce, law and journalism. The present guide gives limits as to how indexing and precis-writing ought to be done, and contains several practical exercises and solutions. The book also furnishes the beginner with a number of examples at which he may try his prentice hand and gradually acquire mastery. We unhesitatingly recommend the book as one of the best guides available on the topics dealt with.

MORAL INSTRUCTION SERIES—THE MAGIC GARDEN, BY ALICE M. CHESTERTON; A TEACHER'S HANDBOOK OF MORAL LESSONS, BY A. J. WALDEGRAVE, LONDON: THOMAS NELSON & SONS. 1s. 6d. net each.

We recommend these books to all interested in the teaching in schools of morality based on purely secular foundations. The first of the books contains a number of tales and stories inculcating moral lessons by example. The second book teaches morality by precept and contains model lessons on the important themes of habits, manners, patriotism, justice, truthfulness, zeal, work, and thrift. The subjects are treated in a bright and interesting way. As a manual of ethics not based on dogmatic theology, we consider the book a notable success.

ESSAY AND LETTER-WRITING, BY F. H. BROOKS-BANK. xii + 265 pp. (MACMILLAN & Co.)

This work is a decidedly original one, based on the author's experience as a teacher; in many respects it is very superior to the average textbook used in schools, especially in throwing suggestions and propounding suggestive questions which makes the essayist work out his own composition. Some of its most useful features are proportion, thoroughness, and accuracy, while for the student the demands of the examiner have been steadily kept in view. The book, as a whole, is a good piece of work that merits the careful consideration of teachers who wish not so much a treatise on the principles of Essay-writing as a book that contains Model Essays and Outlines of Essays that at once suggest and stimulate thought. The extracts in the book have been judiciously selected. The examples of Private and Business Letters given in Part III are exceptionally good. The subjects chosen and the method in which they are presented show that considerable pains have been taken in the preparation of this work. We cordially recommend this neat, valuable little book to teacher and scholar alike as a serious attempt made to provide an introductory first course in essay-writing.

ENGLISH ESSAYS, BY J. H. FOWLER. xxxii + 106 pp. (MACMILLAN & Co.) 2s. 6d.

A very attractive little book containing a collection of representative Essays of representative authors. The essays chosen represent the great essayists, and at the same time they serve as models and materials to those who wish to learn the art of Essay-writing. The Introduction contains many valuable suggestions. The extracts have been very carefully selected. The book is altogether well calculated to urge the student on to a larger and wider study of the great writer. We have much pleasure in recommending this book to the careful attention of all High School teachers as well as tutors in our Colleges.

Indian Educational Notes.

MADRAS.

THE Hon'ble Mr. A. G. Bourne, C. I. E., D. Sc., F. R. S., Director of Public Instruction, privilege leave for one month and twelve days from the 4th January 1909, in continuation of the Christmas holidays.

Mr. J. H. Stone, M.A., Principal and Professor of English, Presidency College, Madras, to act as Director of Public Instruction and Commissioner for Government Examinations, during the absence of the Hon'ble Mr. A. G. Bourne, C. I. E., D. Sc., F. R. S., on privilege leave from 4th January 1909 or until further orders.

Mr. H. J. Allen, M.A. (Bar-at-Law), Professor of History, Presidency College, Madras, to act as Principal, Presidency College, Madras, during the employment of Mr. J. H. Stone on other duty.

Mr. T. J. Venkatachala Aiyar, B.A., Assistant Inspector of Schools, Malabar Division, on leave, to act as Assistant Inspector of Schools, Tinnevely Division, during the employment of Mr. K. R. Doraiswami Aiyar on other duty or until further orders. To join on the expiry of his leave.

The unexpired portion, namely, six days of the privilege leave granted to Mr. I. C. Abraham, B. A., L. T., Sub-Assistant Inspector of Schools, Dindigul Range, is hereby cancelled.

THE following transfers of Sub-Assistant Inspectors of Schools are sanctioned:—

Mr. T. Krishna Rao, Sub-Assistant Inspector of Schools, Trichinopoly Range, and Acting Assistant Inspector of Schools, Tinnevely Division, to be Sub-Assistant Inspector of Schools, Cuddalore Range—to join on relief.

Mr. G. Anantarama Aiyar, B.A., L.T., Sub-Assistant Inspector of Schools, Cuddalore Range, to be Sub-Assistant Inspector of Schools, West Srivaikuntam Range—to join on relief by Mr. T. Krishna Rao. Mr. S. Swaminatha Aiyar, Sub-Assistant Inspector of Schools, West Srivaikuntam Range and Acting Sub-Assistant Inspector of Schools, Trichinopoly Range, to be Sub-Assistant Inspector of Schools of the latter range, with effect from the date on which Mr. G. Anantarama Aiyar joins the West Srivaikuntam Range.

THE following notification appears in the *Fort St. George Gazette*:—The re-examination in English, Mathematics, Science, History and Geography of those Matriculation candidates who pass the English and Second Language branches of the Matriculation Examination, 1908, will commence on Monday the 1st February 1909, and extend over four days. The re-examination will be held at the same centres, and candidates should sit under the same register numbers, as in the Matriculation Examination, 1908. Fresh hall tickets will not be issued. Appli-

cations from candidates for permission to change centres cannot be entertained. It is not expected that the results of the examination in the English and second Language branches of the Matriculation Examination, 1908, will be published until after the middle of January 1909. The names and numbers of candidates eligible for the re-examination will be sent to each school and centre, and may be expected about a week before the re-examination. Private candidates will, wherever possible, be notified by post cards.

We are informed that Mr. K. Sundararama Aiyar, M.A., of Kumbakonam, has accepted the Principalship of the Hindu College, Tinnevely, on a salary of Rs. 400 per mensem with a contract of service for two years.

THE annual distribution of prizes to the pupils of the Wardlaw College came off recently. Mr. Graham, the Collector, presided. Among those present were Mrs. Graham, Mrs. Lucas, Mrs. Cotelingam, the Rajah of Sandur, and several Vakils and officials. The students rose as the Principal conducted Mr. and Mrs. Graham to the platform and their behaviour throughout the whole proceedings was very exemplary. There was a choice collection of well-printed, and very useful and suitable prize books, much admired by Mr. and Mrs. Graham and others.

Mr. Cotelingam did not read a written report but gave a graphic account of the College for the past year. He read a few interesting extracts from the speech made by Dr. Wardlaw Thompson, the Foreign Secretary of the London Missionary Society, at the last prize distribution.

He then read the following extracts from the Inspector's report:—"The educationally backward condition of Bellary, the difficulty of getting competent teachers of whom the supply is not locally available but must come from far, the well-known tendency of the Bellary boys to prefer amusement to close application to their studies are circumstances which must be considered before pronouncing an opinion on the efficiency of the institution. Added to these, is the unfortunate visitation of plague year after year, summing everything before it and making a wreck of what improvement has been effected. The efficiency of the school is not below what may be expected.

In point of discipline, dress and manners I am glad to state that the school is quite a model to other institutions. The orderly and respectful behaviour of the boys on the play ground as well as in the class rooms are a pleasing feature of this Institution."

Mrs. Graham gave away the prizes and the Peter Oator certificates and the proceedings came to a close.

THE distribution of prizes to the pupils of His Highness the Maharajah of Vizianagram's Girls' School, Triplicane, came off recently at the school premises in the presence of a fairly good

number of the parents of the pupils attending the school and the well-wishers of the institution. Sister Devamata (Miss L. F. Glynn) was in the chair.

After a short programme of drill, action songs and dialogue, the Honorary Secretary presented the report of the working of the institution, in the course of which he referred to the previous history of the school from the time it had been started forty years ago by the late Maharajah of Mysore up to the present day.

Sister Devamata then delivered an interesting address, which was interpreted in Tamil and Telugu by two of the gentlemen present for the benefit of the pupils. She then kindly gave away the prizes. Professor M. Ranga Charyar then proposed a vote of thanks to Sister Devamata for having taken the trouble to preside on the occasion and give them advice.

With a few words of reply from Sister Devamata the proceedings of the evening terminated.

THE Prize-distribution of the Presidency Training School for Mistresses came off recently at the Museum Theatre. There was a large gathering of ladies and gentlemen, European and Indian, representative of all castes and creeds.

Owing to the unavoidable absence of Her Excellency Lady Lawley, Lady Benson at a very short notice undertook to take Lady Lawley's place and to distribute the prizes. Miss Lawley, Mrs. and Miss Douglas who arrived from Government House were present during a part of the proceedings.

An interesting programme of amusements was gone through before the distributing of the prizes.

Lady Benson then distributed the prizes to the successful students. The prize-distribution over, Lady Benson made a short speech.

On behalf of Miss Bernard, the Hon'ble Mr. G. S. Forbes thanked Lady Benson for kindly distributing the prizes and thanked also Miss Bernard and staff on behalf of those assembled for the trouble taken by them in arranging such an interesting programme of entertainment.

THE Government have been pleased to sanction a grant of Rs. 3,000 or one-third of the actual expenditure, whichever is less, towards the cost, estimated at Rs. 13,042, of constructing a building for the Saivaprakasa Vidyasala, Chidambaram.

GOVERNMENT have approved the rules submitted by the Director of Public Instruction for regulating the payment of travelling allowances to students of training schools, other than teachers employed in Government, Local or Municipal schools. The travelling allowance will be for a single journey for joining the training institution.

THE Government have accepted the proposal of the Commissioner for Government Examinations to raise the fees for admission to the Government Technical Examinations from Re. 1 to Rs. 3 in the case of the Elementary grade and from Rs. 8 to Rs. 10 in the case of the Advanced grade. For the

Intermediate grade, the fee will be fixed at Rs. 5 instead of at Rs. 6 as proposed by the Commissioner.

HER Excellency Lady Lawley, accompanied by the Misses Lawley and Mrs. Douglas, visited Kala-vala Thiruvendathan Chetty Girls' School, Georgetown. Her Excellency and party were received by Dewan Bahadur P. Rajaratna Mudaliar, C.I.E., and Miss Audiamma, the Head Mistress of the school. The visitors admired the specimens of needle-work executed by the pupils. Her Excellency and party left the school, having spent about an hour and a half in inspecting the institution, which had all the classes at work during the time of the visit.

HER Excellency Lady Lawley has been kind enough to present the Mylapore Girls' School with a likeness of Her Excellency. The picture is an excellent choice and is a close likeness of Her Excellency seated on a garden seat under the shade of a tree probably on the hills. The picture was received with much *éclat* by the girls and has been put in the Library room of the school.

THE Secretary of State has sanctioned the proposals for the provincialization of the supervisors of primary schools employed by Local Boards and Municipal Councils in the Madras Presidency. The scheme will be brought into force with effect from 1st March, 1909.

MRO M. Ramaswami Aiyangar, B.A., L.T., Third and Acting Second Assistant, Teachers' College, Saidapet, is to act as Assistant Inspector of Schools, Guntur-Nellore division, during the employment of Mr. G. V. Subbarayudu Sastri on other duty or until further orders.

MR. M. Ramaswami Aiyangar, B.A., L.T., is to act in the Provincial Educational Service.

MR. J. R. Henderson, M.B., C.M., F.L.S., is to act as Superintendent, Government Central Museum, and Principal Librarian, Connemara Public Library, during the absence of Mr. E. Thurston on leave or until further orders.

At the Hindu High School, Triplicane, the Hon'ble Mr. P. S. Sivaswami Iyer, Advocate-General, unveiled a portrait of Mr. V. S. Srinivasa Sastriar, late Head Master of the High School and now a member of the Servants of India Society.

The proceedings began with Mr. G. A. Natesan recounting the virtues and the unselfish character of Mr. Srinivasa Sastriar's services.

The Hon'ble Mr. Sivaswami Iyer, before unveiling the portrait, made a speech, in the course of which he said that he claimed freedom from any bias which any intimacy was likely to create in regard to the person whose portrait he had been called upon to unveil. What he had seen and heard of Mr. Srinivasa Sastriar and of his work enabled him fully to appreciate his work and bear testimony

to his high character, to his great ability, and to his varied attainments. Teachers of his type were by no means common in this country, and in any country teachers with the same gifts, with the same character, and with the same high ideals, must be more or less rare. But in this country they were perhaps rarer than in other countries. This was a time when much was said about the influence which ought to be brought to bear upon students during their life at school, and much was also said about the influences which ought to be brought to bear upon students in their home life. A teacher of that ideal type was Mr. Srinivasa Sastriar. He succeeded in winning the love and respect of all his pupils by the whole-hearted manner in which he threw his soul into his work and by the example of his high character. He left the school not with a view to improve his prospects. When he severed his connection with the school some years ago, it was quite an event in Madras, and his act of reunciation was disapproved by many of his friends. But Mr. Srinivasa Sastriar felt that he had even a higher vocation than that of moulding the character of students and that it was necessary to serve the interests of the country, and he placed his services at the disposal of the organisation known as the Servant of India Society which had been founded by the Hon'ble Mr. Gokhale. Mr. Sastriar's example of sound scholarship, genuine culture and sober patriotism would always be a shining example to teachers and students alike.

The portrait was then unveiled amidst cheers, and the proceedings terminated with a vote of thanks to the Hon'ble Mr. Sivaswami Iyer, proposed by Dewan Bahadur Ramaswami Naidu.

The Madras Government have sanctioned a grant of Rs. 50,000 to the University of Madras towards establishing University Vacation Lectures, on condition that this sum is invested in Government securities and the interest on the investment is devoted to the purpose stated and not diverted therefrom without the special sanction of Government.

BOMBAY.

Mr. Chinubhai Madhowlal has given four lakhs of rupees in $3\frac{1}{2}$ per cent. Government securities to be applied by the Government towards the development of science teaching in Ahmedabad, in connection, if possible, with the proposed Curline Institute in Bombay. The Governor in acknowledging the gift said: I am certain it will be a source of the greatest satisfaction to you to feel you have enabled sound science teaching to be given in the important capital of Gujarat. The response to my appeal for means to develop science teaching in the Presidency is far more generous than I dared to hope, and the splendid benefactions, amounting to eighteen lakhs, prove alike the large-hearted patriotism of the givers and their recognition of one of our greatest educational needs.

THE Committee specially appointed by the Government of Bombay has submitted its Report stating that in its opinion the time has not come for the introduction of free or compulsory education in the city of Bombay. It advocates increasing the number of free schools, and as the number of teachers is not sufficient, it recommends that the Government should establish a Training College. The Committee states:—"Here the want of room is the controlling factor in this educational problem." The Government have called for a scheme and estimate for a Training College, but otherwise take no action on the Report, as since the Committee was appointed the Municipality has assumed sole responsibility for Primary education.

THE Government of Bombay have issued the following Press Note:—H. E. the Governor in Council has for some time been aware of the necessity for improving the pay and prospects of the teaching staff in Local Board and Municipal Primary Schools. He considers it desirable that no master should be employed on a minimum pay of less than Rs. 9. The cost entailed in adopting this proposal is estimated to be Rs. 98,784 per annum. To avoid further delay in carrying out this pressing reform the whole of the extra charge in the Presidency proper will be borne by Government for three years; at the end of which half the cost will be required from the local bodies concerned.

THE following Government resolution has been issued:—It has been brought to the notice of Government that Sindhi students do not freely join the Training College for Teachers in Secondary Schools in Bombay, and that the cause of their unwillingness to do so may be that the sanctioned stipends are inadequate to cover their expenses in Bombay. His Excellency the Governor in Council has accordingly been pleased to raise the three stipends reserved for Sindhi students studying at the College from Rs. 30 to Rs. 50 per mensem each, as a temporary measure, for a period of three years, in order to offer a greater inducement to Sindhi candidates to join the College. The Director of Public Instruction has been requested to report in October, 1911, the results of this experiment and whether, in his opinion, it should be continued.

As a preliminary measure towards the organisation of a course of training in higher commercial education in Bombay, Professor Lees-Smith, of the London School of Economics and Political Science, has come to the city for a few weeks at the joint invitation of Government and various commercial associations to deliver a series of lectures on economic subjects. The first was given at the Byramji Jeejeebhoy Institute before a large attendance, representative particularly of the younger men of commerce of all the native communities. Prof. Lees-Smith is lecturer in Economics at the London School of Economics and at Bristol University, and is one of the Editors of the "Economic Journal."

the organ of the Royal Economic Society, and chairman of the executive of the Ruskin College, Oxford.

THE Government of Bombay have addressed to the University important proposals for a modification of its curriculum so as to provide for a scheme for teaching modern science, for which object munificent gifts have recently been made.

PUNJAB.

At the last meeting of the Syndicate of the Punjab University a letter from the Honorary Secretary of the Anglo-Indian Temperance Association, London, seeking the co-operation of the Senate of the University in the work of temperance in India was discussed. It was stated that should the University agree officially to recognise and encourage the teaching of temperance in the colleges affiliated to it, the Anglo-Indian Temperance Association would gladly co-operate with any scheme sanctioned by the Senate. Sir Herbert Roberts had made three definite proposals. The first of these was to the effect that an invitation might be addressed by the Syndicate to affiliated Colleges to provide once a term or on some other recurring date a lecture upon temperance by a member of the College staff to all students attending the College. The second proposal related to the introduction into the curriculum of the University of a text book upon temperance, the Association offering to have such a book prepared and to present the copyright to the University. The third proposal was that the Syndicate might invite all affiliated colleges to admit a lecturer deputed by the Association to address the students once a year upon a date fixed by the Principal. Sir Herbert Roberts also suggested the desirability of committees of inspection appointed by the Syndicate being instructed to enquire at each college as to the precautions taken to warn the students against the dangers of intemperance and facilities provided to bring home to them the advantage and duty of abstinence. It was added that should the University of the Punjab not see its way to the acceptance of suggestions specified by the Anglo-Indian Temperance Association, the latter would be glad to consider any proposals made by the Senate on the subject, the general feeling of the Syndicate being that no special action was necessary to promote temperance in Indian Colleges. The Syndicate did not see its way to accept any of the proposals made by Sir Herbert Roberts. It was decided, however, to forward a copy of his letter to Principals of Colleges affiliated to the University with reference to the proposal that a lecturer deputed by the Association might be allowed to address the students once a year on the subject of Temperance.

THE Senate of the Punjab University lately approached the Punjab Government with an application for financial assistance. The Senate requested that this assistance might take the form of

a grant of Rs. 50,000 per annum, besides the Rs. 21,500 already received from Provincial Revenues, and that the University might be granted in addition, an endowment in the form of a grant of land in the Canal Colonies. It was decided at the same time to inquire whether any conditions attached to the grant of Rs. 21,500 at present received from Government, and whether the University was at liberty to spend it as it liked.

A HINDU pleader of Rewari in the Gurgaon District, who died childless, has left cash and property of the value of Rs. 60,000 to the Dayanand Anglo-Vedic College at Lahore. About Rs. 25,000 in cash and Rs. 10,000 in house property will be made over forthwith to the authorities of the College, whilst a sum of Rs. 15,000 will be invested and the interest thereof utilised for the maintenance of the widow of the deceased during her life. After her death this money also will be made over to the College.

CALCUTTA.

It is understood that Mr. Percy Brown, Principal of the Mayo School of Art, Lahore, is to come to Calcutta as head of the School of Art in Chowringhee.

MAHAMAHOPADHYAYA Pandit Siva Chandra Sarva-bhauma, of Bhatpara, Principal, Mulajor Sanskrit College, has conferred the title of Vidyavind on Bahu Saradaranjan Ray, M.A., Vice-Principal, Metropolitan Institution, Calcutta, in recognition of the merits of his commentary on *Sakuntala*. Vice-Principal Ray's Sanskrit scholarship is profound and accurate, and his commentary on *Sakuntala* is a work of exceptional merit. His title has been well-earned, and the learned Pandit who has bestowed it, has shown not only his appreciation but his generosity in giving the honour to one who does not belong to the class of professional pundits.

THE death occurred recently at Benares of Rai Omerto Nath Mitter Bahadur, the millionaire of Chorbagan, Calcutta, at the age of 60. Amongst other donations and charities he added a ward for the Medical College Eye Infirmary at a cost of Rs. 25,000.

AN important meeting of the Senate of Calcutta University was held at the Senate House, College Square. The Vice-Chancellor, the Hon. Mr. Justice Ashutosh Mookerjee, presided, and there was a full attendance. The question to be decided was whether the affiliation with the University of the law classes should be withdrawn from the Tej Narain Jubilee College, Bagalpur, the Midnapur College, and the Bhar National College, Bankipur. The Syndicate proposed that the affiliation should be withdrawn, a proposal that met with somewhat strong opposition. Mr. A. Chandhri moved an amendment to the effect that the disaffiliation be

postponed. He only secured eleven supporters, however, and the Syndicate's proposition was carried.

THE Maharaja Sahab of Indora has sanctioned a donation of Rs. 200 to the School in honour of the birth of a son and heir-apparent to the Raj.

It is generally believed at Dacca and other East Bengal towns that the Government is firmly moving in the matter of various "national" colleges and schools and one or two bar libraries. It is expected that something definite will be communicated to the Educational authorities before many weeks have gone by.

THE National Council of Education announce their scheme for 1909. Two public examinations of the Fifth and the Seventh Standards of the National Council of Education, Bengal, corresponding respectively to the Matriculation and Intermediate in Arts standards of the Indian Universities shall be held in the third week of June 1909, on the dates and in manner hereinafter stated.

UNITED PROVINCES.

REPLYING to an address of the Cawnpore Municipality, Sir John Hewett, referring to last year's Industrial Conference, said:—

"The Conference devised a modest, but I think very practical, scheme for the development of industrial education in this Province, the initial cost of which was approximately 15½ lakhs and the recurring cost 4½ lakhs. These figures represent respectively half an anna and less than one-sixth of an anna per head of the United Provinces. The proceedings of the Conference had hardly closed before we were brought face to face with a famine in this province, and the financial resources of the Government of India were seriously curtailed by the failure of crops both here and in other parts of India. I have just been informed that our scheme has been recommended to His Majesty's Secretary of State for India, and I trust, in due course will receive his sanction. It provides for an industrial school and technological institute at Cawnpore, the latter institution to undertake industrial research and train the educated class to be managers, overseers, foremen and investigators. These and the other details of our scheme cannot fail, I believe, to be of immense benefit to the Province generally and to Cawnpore in particular."

THE New Arabic College to be established at Lucknow Nadwat Ululema, is to receive an annual grant from Government of Rs. 6,000. The College is for the purpose of providing a sound education in the vernacular, also religious instruction, and for turning out good Arabic scholars. Sir John Hewett is taking a great interest in this College.

In a resolution just issued by the United Provinces Government, Sir John Hewett calls attention

to the munificence of Raja Udai Partab Singh, c. s. i., of Bhinga, in giving the sum of 10 lakhs of rupees in addition to a promise of one lakh for the necessary buildings towards the establishment of Kshatrya High School at Benares. A notice in the United Provinces *Gazette* shows that among the conditions attaching to the endowment trust are the following:—That teachers of schools, before their appointments, shall make a solemn affirmation of loyalty to the Government before the Magistrate or before the headmaster if so empowered in a form to be prescribed by the Committee and that pupils before their admission shall make a similar affirmation or declaration in a form to be prescribed by the Committee; that adequate and strong measures shall be adopted to preserve pupils free from taint of disloyalty, race hatred, rowdiness and ribaldry and that lectures on loyalty, morality and good manners shall be given to pupils on suitable occasions.

It has been decided to raise a subscription in aid of the sufferers from the Hyderabad disaster at the M.A.O. College, Aligarh. Sir Mumtaz-ud-Dowlah has headed the list with Rs. 500.

INDIA (GENERAL).

The association founded last year, under the presidency of Mrs. Besant to help by friendly counsel and social introductions students from India on their first arrival in Great Britain, has published a list of the committees formed in London and the districts of Bradford, Manchester, Cambridge, Southampton, and Edinburgh.

A scheme for the founding of a special University in connection with the Chiefs' Colleges in India was recently laid before the General Council of the Duly College at Indore by the Begum of Bhopal. In the course of a long exposition of the project Her Highness said that adequate provision was not being made for "members of the second rank of our class—that is, those whose birth does not carry with it great expectations." Apart from their personal needs, it was, she contended, desirable from every point of view that the aristocracy of India should take a more prominent part in the daily business of the world. In England there was not a profession or a service of any note in which the nobility did not hold its own. But, the Begum argued, it was not desirable that a student after taking a diploma at a Chiefs' College should proceed to complete his education at one of the Indian Universities. The alternative was the incorporation of a Chiefs' University. One college would be sufficient, and in this students could prepare for the examination of Master of Arts, while those colleges already in existence would continue to be schools, but approximating more closely than at present to the standard of public schools in England. Her Highness laid stress on the point that the new College must be modelled on those of Oxford and Cambridge. "We want our sons," she remarked, "to become

B.A.'s and M.A.'s, but we want them at the same time to enjoy as far as possible the social advantages of a University career, and to acquire the manner of life, the instincts, and the bearing of gentlemen."

THE Secretary of State has appointed Mr. Theodore Dunn, M. A., of Glasgow University, to be a Member of the Indian Educational Service and to hold a post of Inspector of Schools in Eastern Bengal and Assam.

Foreign Notes.

CEYLON.

THE Bishop of Colombo presided at the Bishop's College prize-giving. The report states:—"A New Kindergarten Department was opened under Miss M. Elliott who has matriculated in the London University, and is a fully-trained Mistress (Higher Froebel Certificate and Teaching Diploma, Bangor Training College). The parents already show their appreciation of her teaching. The method of instruction trains the powers of observation, teaches mental discipline and produces brighter and more intelligent work. Ear, hand and eye are carefully trained in the Kindergarten occupations, organised games and brush work. Reading is rendered less difficult and tiring without the drudgery of spelling each word before recognising it, and a thorough foundation is laid for future mathematical work in the scientific way in which numbers are taught."

CHINA.

CHINA is going in for Compulsory Education. Schools are to be established all over the empire, in proportion to the population and all children of seven years old or upwards are to be compelled to attend them.

AMERICA.

"THE maker of Harvard" is the title bestowed by United States Press on Prof. C. E. Norton who has just resigned the principalship of the premier American University. Harvard, of course, was founded nearly three hundred years ago, but under Dr. Norton's sway its numbers have risen from one thousand to five, and its influence and reputation have greatly increased.

GREAT BRITAIN.

THE annual general meeting of the Association of Teachers in Technical Education was held in London on the 7th November. The business of the meeting was to elect a new President and Secretary for the new year. A paper on "Technical Education at the Franco-British Exhibition" was read where reference was made to the excellent exhibits of the work of trade schools.

XIV

MERTHYR Tydfil, a newly formed county in Wales, is to build a free secondary school for 500 pupils.

THE Third International Congress of School Hygiene will be held in Paris from March 28th to April 2nd, 1910. An exhibition will be arranged of objects and apparatus of interest to students of school hygiene. Information concerning the Congress may be obtained from M. Divet, 11, Bis Rue Cernuschi, Paris; and particulars of the exhibition from M. Friedel, at the Musée Pédagogique, 41, Rue Gay-Lussac, Paris.

THE General Council of the Glasgow University means instituting an order of lectureship similar to that of the *Privat Dozenten* in the German Universities. The *Privat-Dozent* receives no salary from the University, and is altogether dependent on the fees of the students whom he attracts to his lectures. The chief drawback of the system is the compulsory attendance at qualifying courses required of all students working for a degree.

OF late, the Scottish Universities have been doing everything in their power to promote the social well-being of their students. Clubs, societies, and associations appealing to every variety of taste and interest have sprung up within recent years, and are heartily supported by students and professors. It goes without saying that the influence exercised by the social life of the Universities, is likely to prove as lasting and far-reaching, as any gained within the walls of the class-rooms and lecture halls.

PROF. Chrystal recently remarked, that it has become recognised that the school-master is a potent instrument for furthering the moral and spiritual, as well as the intellectual welfare of the youth of the nation. As Dean of the Faculty of Arts in Edinburgh University, Prof. Chrystal said that he was intimately acquainted with the work done by all the students, and he paid a high tribute to the quality of the provincial students' work.

IMPORTANT announcements are being made by the Intermediate Board, which are likely to modify the whole state of secondary education in Ireland.

THE Department of Agriculture and Technical Instruction, Ireland, announces that it will offer for competition next June and July three teacherships-in-training as well as a number of science and technological scholarships.

DEGREE day of the University of Wales was marked this year by the conferment of the honorary degree of LL.D. on the Chancellor of the Exchequer, Mr. Lloyd George. "Forty years ago" he said "we had no University of Wales. We had very few secondary schools, and most of them were barred to the bulk of the people by reason of the

great expense in the matter of fees. Now we have ninety-eight such schools, all of them accessible to the sons and daughters of the people. In 1872, Sir Hugh Owen and others started the first University College. The whole story of the building up of this system is a romance."

A REPORT on the courses of lectures and practical lessons held within the University of Edinburgh in August last has now been issued by the acting committee. It is stated that the total number of lectures, readings, and recitations amounted to about 240, and the total number of practical lessons to nearly 406. The courses were attended by 256 students who derived great benefit from these courses. International good-will and the cause of national education have been undoubtedly promoted.

DR. Edward Caird died at Oxford in his seventy-fourth year (October 31). Educated at Glasgow University, he was appointed to the chair of moral philosophy in Glasgow University in 1866, and taught there for twenty-seven years. He was the leading interpreter of Kant, Hegel, and also of Comte in England. His lectures on the evolution of religion, the evolution of theology in Greek philosophers, as well as his volumes of essays on literature and philosophy, are esteemed masterly. His influence on his students was universally regarded as impressive and memorable.

THE chemical schools of Manchester are being enlarged by a new block of buildings, which will consist of a large laboratory and fifteen new research laboratories. The total cost is estimated to be about £20,000.

SIR William Ramsay, K.C.B., F.R.S., etc., Prof. of Chemistry, University College, London, and Mr. George William Hill, the American astronomer, have been elected corresponding members of the Bavarian Academy of Sciences.

THE University of Cambridge has conferred the honorary degree of M.A. upon its new Professor of Chemistry and International Law, the Lecturer in Agriculture, and the Director of the Fitz William Museum.

MR. G. H. Kenrick, the new Lord Mayor of Birmingham, has subscribed a further £10,000 to the funds of the University, making his total contribution £25,000.

MR. Cecil Cochrane has given £5,000 to the Armstrong College Endowment fund.

SIR Herbert Roberts, M.P., has offered £1,000 to the building fund of the North Wales University College.

THE Committee in charge of the proposed memorial to the late Mr. Augustus F. Wain has offered £4,000 to the University of Liverpool for, or towards, the endowment of a lectureship in Equity.

HARVARD University and the Prussian Government have agreed to exchange five students yearly free of fees.

PROFESSOR Ernest Rutherford, F.R.S., of Manchester University, who has been awarded the Nobel Prize for Chemistry, is a New Zealander, having been born at Nelson in 1871. His scientific career has been a most brilliant one, and he has written extensively on the subject of radio-activity. Professor Rutherford delivered the Bakerian lecture before the Royal Society in 1904, and in the following year was awarded the Rumford medal by that body. The Nobel prizes, five in number, are each worth £8,000, and are awarded yearly for the most important discoveries or improvements in (1) physics, (2) chemistry, (3) physiology or medicine, (4) for the most distinguished literary work of idealistic tendency, and (5) for the best effort towards the fraternity of nations and the promotion of peace. President Roosevelt was awarded the Peace prize in 1906, and last year Mr. Rudyard Kipling received the prize for literature. The list of Nobel awards indeed includes the names of eminent men of many nations, among them being Professor Mommsen, Professor Röntgen, Lord Rayleigh, M. Sully Prudhomme, and M. Björnson Björnssterne.

DR. Sven Hedin will lecture before the Royal Geographical Society in the third week in January. Thereafter he will visit Scotland and deliver lectures at Dundee, Aberdeen, Edinburgh and Glasgow.

THE King of Siam has given two hundred pounds to Lord Curzon's Oxford University Fund. £133,000 has hitherto been raised.

MAGDALEN'S fourth consecutive victory in the Fours at Oxford this autumn was a fitting culmination to thirty years of history more triumphant than any college at any University can boast. The record of the College Boat Club in oarsmanship is indeed marvellous, the more so because the Club is far from old. Up to 1879 its successes had only been minor ones, and it held no high place among college rowing clubs, but from that date onwards it has had nothing but one long concatenation of victories to record.

The Educational Review.

In every highly civilized country the educational value of the museum is an accepted fact. In the modern mind the museum idea seems to be more firmly entrenched than that of the free public school. The primary purpose of the educational museum is to furnish food for thought, to expand the mind, and to illuminate the soul. It endeavours to minister to the craving for a knowledge of nature, which is insistent in the mind of the average person of to-day. The "nature-study" school-teacher can at best only stimulate thirst for a knowledge of nature's forces and works, which is the foundation of all human knowledge, but he can not allay it. Inquiring young people—and adults, too—have always to turn to the museum. The museum furnishes an epitome of the world. It shows the vastness of the kingdoms of nature, the marvellous variety of living things, the evolution of the complex from the simple. It enables one to learn that system is the masterkey of all work. It is the museum that can teach best the teachers of to-day the value of system. It is the museum that best sets forth attractively to the youthful mind that classification is the foundation of all useful knowledge. The functions of the modern museum are three-fold—research, publication, and exhibition. Its educational function as a whole embraces all three of those lines of activity. The time was when research had supreme right of way on account of the vastness of the field. But at the present day scientific investigation often becomes too profound to be useful, and research may mean nothing more than the extension of decimal places. The dissemination of know-

ledge is now fully as important to the world as investigation. The Indian teacher will have to devise ways and means by which he can make available to his pupils the knowledge accumulated in the Indian museums.

Formerly India was not in a state of pupilage as at present. She was the teacher of all Universities. Asia. The great centres

of culture in Asia were the Indian Universities of Takshasila, Sridhanya Kataka, Benares and Nalanda. To them flocked students from all parts of Asia and from them went out the missionaries who brought Indian religion, science and art to such distant parts of the continent as China, Korea, and Japan. "What Cluny and Clairveaux were to France," says Fergusson, "Nalanda was to Central India—the depository of all true learning and the foundation from which it spread to all other lands of the faithful." In these great universities the whole range of education was schemed and co-ordinated with a breadth and largeness undreamt of in Modern India. There were schools of painting, sculpture, and handicrafts (*Silpastanavidya*) as well as of mathematics, astronomy, medicine, and other sciences. At Nalanda religion and philosophy were taught from a hundred chairs. Not less greatly planned were the equipment and environment of the colleges. Yuan Chwang, who resided at Nalanda for many years, describes it as "an enchanting abode." He says:

"The richly adorned towers were arranged in regular order, the pavilions, decorated with coral, appeared like pointed hill-tops; the soaring domes reached up to the clouds, and the pinnacles of the temples seemed to be lost in the mist of the morning. From their windows one could watch the movements of

the winds and clouds, and above their lofty roofs the sun and moon could be seen in conjunction.

"All around pools of translucent water shone with the open petals of the blue lotus-flowers; here and there the lovely kanaka-trees hung down their deep red blossoms; and woods of dark mango trees spread their shade between them. In the different courts the houses of the bhikshus were each four stories in height. The pavilions had pillars ornamented with dragons, and beams resplendent with all the colours of the rainbow—rafters richly carved—columns ornamented with jade, painted red and richly chiselled, and balustrades of carved open work. The lintels of the doors were decorated with elegance and the roofs covered with glazed tiles of brilliant colours, which multiplied themselves by reflection, and varied the effect at every moment in a thousand ways."

All this was the work of six successive Indian kings, who had devoted their pious efforts to building and adorning Nalanda. The last one reorganised the work of his predecessors, opened a number of halls for conferences, and surrounded the whole place with a single wall with one gate. The revenues of two-hundred villages were utilised for the maintenance of this great institution.

Among such surroundings and by such influences were nurtured and developed the culture and ideals, which have found their expression in the literary and artistic productions of Indian Buddhists. Such was the respect for the dignity of learning inspired by the healthy and artistic surroundings that, according to Yuan Chwang, no single instance of a deliberate violation of the rules and discipline had been known at Nalanda during the seven hundred years since the foundation

of the University. The ethical influence of such institutions must have been immense. A university, it was recently said by an eminent Englishman, should be a petty universe; it should comprehend everything that was wholesome and valuable for the development of brains and character. Such indeed was the ancient Indian University of Nalanda. In Modern India the ethical influences of educational institutions are of a very poor order, and the squalid, hideous surroundings of most of them can call forth no love of the *alma mater*. The great Indian Universities of the past served to stimulate the national genius—that creative power of the people whose exercise in all directions is the surest index of national prosperity. Founded with the sole aim of supplying the demand of Government offices for English-knowing clerks, the modern Indian Universities have afforded to the Indian youth neither the best fruits of Western nor of Eastern culture. They have tended more to glorify clerical accomplishments and sordid utilitarian aims than to produce mental expansion, intellectual outlook and liberality of thought. By its fruit a tree is judged. The lack of originality in every department of thought declares the poverty of Modern India compared with the great epochs of its former history. And this is the direct result of "a deliberate sterilization of the intellectual seed-plot, a perverse maltreatment of the ingenuous mind" brought about by the system of education in vogue.

The most pressing need of India is a well-organised system of elementary education up to date in its methods. Nothing else could solve the political and social difficulties of our country. From various points of view, education is the best ally of the State.

Schools are much cheaper than prisons and police establishments. For thwarting such destructive currents as threaten to undermine its power the State can find no better means than education. In his book on Modern Egypt Lord Cromer has laid special emphasis on this point of view. "It is on every ground of the highest importance that a sustained effort should be made to place elementary education in Egypt on a sound footing. The school-master is abroad in the land. We may wish him, but no one who is interested in the future of the country should blind himself to the fact that his successful advance carries with it certain unavoidable disadvantages. The process of manufacturing demagogues has, in fact, not only already begun, but may be said to be well advanced. The intellectual phase through which India is now passing stands before the world as a warning that it is unwise, even if it be not dangerous, to create too wide a gap between the state of education of the higher and of the lower classes in an Oriental country governed under the inspiration of a Western democracy. Higher education can not and ought not to be checked or discouraged. The policy advocated by Lord Macaulay is sound. Moreover, it is the only policy worthy of a civilized nation. But if it is to be carried out without danger to the State, the ignorance of the masses should be tempered *pari passu* with the intellectual advance of those who are destined to be their leaders. It is neither wise nor just that the people should be left intellectually defenceless in the presence of the harebrained and empirical projects which the political charlatan, himself but half-educated, will not fail to pour into their credulous ears. In this early part of the twentieth century, there is no possible general remedy against the demagogue except that which consists in educating those who

are his natural prey to such an extent that they may at all events have some chance of discerning the imposture which but too often lurks beneath his perfervid eloquence and political quackery." With equal cogency the demagogue advocates the necessity of mass education for enabling the governed to understand the defects of their rulers. Whatever may be the reasons assigned, there is on all hands an unanimity as to the necessity of elementary education. The illiteracy of India is frightful. According to the Census of 1901 there were 104,500,000 males in India who could not read, 826 boys out of every thousand of school age, who had no school to go to. Both the people and the State must hasten to remedy the defect. Neither mere talk about national education nor the securing of certain electoral privileges from foreign rulers can furnish the leverage needed for uplifting the masses, which alone will ensure the progress of a country in all possible directions. In this connection we may make a reference to another necessity of our country. The educational influence of a sound military system has been wholly ignored. This auxiliary influence produces the most potent results for national good. In countries like Germany, Switzerland and France, where the military system is most highly developed, is to be found the most practically efficient system of national education, as universal and compulsory military service forms the natural correlate of universal and compulsory national education. Japan has elevated herself by following this truth.

As education has always been the handmaid of religion, it seems liable to suffer from the same disabilities which tend towards the deterioration of religion. Those

whose vocation brings them in relation to education often bow down before those *idola* of which we are warned by Francis Bacon. Of the three classes of idols mentioned by Lord Bacon, we shall here refer only to what he calls the *idola theatri*—idols of the theatre. The schoolmaster is dominated by the voice of authority telling him what is to be believed and practised. If some illustrious name is quoted in favour of some opinion, he will reverence that opinion whatever its intrinsic worth may be. It is this tendency to bow to the *idola theatri* and to some extent to the *idola fori* that is accountable for the cry often raised by those connected with education against the lack of discipline in our schools and colleges. There is absolutely no foundation for charging the Hindu youth with lack of respect for authority. On the other hand, we fear the Hindu youth suffers from a plethora of reverence for all kinds of authority. By his breeding and environment he is made a coward who naturally bows down before authority, and rarely thinks of rebelling against it. In the government of schools and colleges there is a great deal of overstrictness, amounting almost in some cases to tyranny. The Hindu youth fears the school more than he loves it. The aim of every teacher should be to make himself loved by his pupils and not feared. Any reverence for authority and age merely as such is not praiseworthy, and any decline in the reverence for such things is not to be deplored. The respect for authority is not inherent in the Indian mind, as is sometimes asserted. The past history of India proves our statement beyond doubt. The very aim of education is such that it carries within it the elements that tend to transform, if not to destroy, authority. As pointed out by a writer in the current number of the *Modern Review*,

"revolution comes by way of the school and college, no matter what the teaching is like; and it is conceivable that modern education in India might have been just as disruptive and dissolvent if our university examiners had been required to get up Manu and Asoka as well as, or even instead of, Milton and Mill. The power which administered India in the nineteenth century could not have refused to give education. If it had done so, India would have got it for herself (since contact with Europe could not have been avoided) and possibly with greater thoroughness and intelligence. There is no doubt that, in our dissatisfaction with the actual, and our misgivings concerning the future, we fail to distinguish between the accidental and the inevitable; and that, in considering the moral failure of education, we are the victims of a confusion of ideals." The world stands in need of higher effort than that which is born of fear of authority.

No one will question that the need for technical education in India is urgent. But there may be honest difference of opinion as to the system of technical education needed. As an ideal system of technical education does not exist, the best course to find out what would be best for India is to examine the general principles underlying technical instruction and the extent of its development in other countries. In its broadest sense technical education means the training which embraces instruction in the arts and sciences underlying the practice of some trade or profession. But the sense in which the term is generally employed is somewhat narrower. It means that kind of training which is specially adapted to the pursuit of some kind of handicraft or some branch of productive industry. Industries may be classified into two groups: (1)

manufactures, which necessitate the application of a variety of processes and depend directly on machinery; (2) handicrafts, in which the product is the result of individual workers, whose labour and skill are employed on a single article through all the stages leading to its completion. The former involve many mechanical, physical and chemical processes of the most advanced type and therefore require a special scientific training to understand thoroughly the nature of the processes of production as well as to be able to apply the most recent discoveries of science to their improvement. The training needed for those who will engage in large manufacturing works can be given only in well-equipped universities or colleges. The handicrafts, on the other hand, can be taught in trade schools. In these schools the pupil learns his trade whilst pursuing a general education at the same time. Another method in vogue is the encouragement of children of the ordinary elementary school to continue their education in a higher grade school of a technical character. The curriculum in these schools consists of a better study of such primary subjects as drawing, modelling, science and mathematics together with the technology of the staple industry of the locality. The main principles which should underlie every properly-organised system of technical education may be summed up as (1) giving the highest possible scientific training to those who will probably occupy the highest posts in industrial works; (2) giving a sound, general, and practical education to artisans and work-people; (3) giving secondary education under conditions which place it within the reach of all classes. In the systems of technical education now in vogue in Europe and America we notice the following prominent features: (1) the adaptation and correlation of the work of technical institutions to local requirements and conditions; (2) the existence

of a close connexion between primary, secondary, and technical instruction; (3) the co-operation of Government, or Local authority with employers and merchants in the organisation and control of technical schools; (4) the difficulty of formulating a complete national system of technical instruction. In a poor country like ours there would be an enormous advantage and economy both in the way of expenditure and teaching power, if the technical institutions affiliated to our Universities should each specialize one side of their teaching and develop it to the highest extent possible, making it unnecessary to repeat it in other universities.

In an address on the correlation of the teaching of mathematics and physical science delivered last month at a conference of the Mathematical Association and the Federated Association of London non-primary teachers, Professor J. Perry, F.R.S., laid stress on various points connected with the teaching of science. Whatsoever may be the reasons for teaching science, the early training of children in science must be the same in all cases. Mathematical methods should be taught as any other physical science is taught with experiment and common-sense reasoning. The scientist needs teaching which will give him such a command of mathematical methods that he can apply them in any new problem with ease and certainty. Whether or not he has studied rigorous proofs that these methods are legitimate, he certainly must gain familiarity with them by actual use. Some use, or much use, ought almost always to come before the proofs, and in some cases the proofs need not be studied at all if it is felt that their study does not tend to utility. Geometry, algebra, trigonometry, mechanics should each

be taught through the others, as they are all correlated and really form one subject. Labour-saving rules, which are known by the name of formulæ, have a pernicious effect, in so far as they lead to the forgetting of fundamental principles. The aim of instruction is not to convey information, or a thousand labour-saving rules, but to teach scientific method. In the teaching of the average boy logical perfection is impossible. Any attempt at logical perfection makes studies uninteresting to the average boy, and whatever is uninteresting is uneducational. All that is bad in school teaching comes from there being separate courses of study, each with its separate examination. All parts of elementary mathematics ought to be taught along with and through science, and by the same master. In the perfect school from top to bottom there ought to be no master who is only a specialist, who is a mere mathematician, or who is merely a classical scholar, or a mere chemist, or a mere anything. The attainments of all masters should be such that no one will ignorantly sneer at any subject studied at the school. All form masters ought not only to know at least two subjects well, but to have such an acquaintance with all the other subjects taught at a school as to be able to talk intelligently with their boys on all these subjects, although they may not be able to teach. The specialist, if he teaches at all, ought to teach university, or rather post-graduate, students. Until a man takes his degree his teachers ought to be men of general intelligence. No boy in a school ever reaches the level in mathematics which requires a mathematical specialist to teach him, and it is the same in physics and chemistry. Teachers do not seem to comprehend the nature of the reforms suggested by the British Association and other committees. They recommend experimental

geometry with common-sense reasoning, but everybody uses in a babyish manner rulers and compasses following a series of propositions. They ask for interesting work in weighing and measuring, but care is taken that all such work shall be made as uninteresting as possible. They recommend some work with graphs on squared paper, but some teachers do nothing but graphs, and squared paper appears to them to have been invented merely for illustrating the solution of certain simultaneous or quadratic equations, and dozens of books are produced to help on the craze. The most surprising thing is that many teachers seem to have no individuality, no originality, nor even the power to think for themselves at all. They want to have imposed on them some system of teaching so complete in every detail that anybody can follow it exactly. Until salaries are doubled and the forms halved in their number of boys, there will be things very open to criticism.

The first annual conference of the South India Teachers' Union was held on the 23rd and 24th instants in the large hall of the Wesley College, Royapetta. The opening address was delivered by Mr. M. Hammick, the member of the Executive Council of the Madras Government, who is in charge of the educational portfolio. The address was very sympathetic to the aspirations of the teachers and laid stress upon the necessity of the training of character in preference to mere intellectual training. Mr. J. Stone, the President of the Madras Teachers' Guild, gave an account of what he had done in connection with the preparation of a scheme for a provident fund for teachers in this presidency. We are sorry to find that the scheme is still

in the incubatory stage, but we trust that some definite action will soon be taken by our Government in the matter. Of the three papers read at the Conference, one dealt with the necessity of compulsory elementary education, concerning which we have expressed our views in another note in the current number. The other two papers related more or less to the position of the vernaculars in our school and college education. That our vernacular studies have deteriorated in this presidency is admitted on all hands. Some strenuous effort should be made to lift them from their present fallen condition. The step taken by the Government of Madras in connection with vernacular composition in the new Intermediate Examination of our University seems to be a move in the right direction and is in perfect accord with the recommendations of the Universities' Commission. That this would work a hardship in the case of those who take Sanskrit as the optional language for Matriculation is not a serious objection. Our opinion is that no candidate should be permitted to prefer a dead language to his own vernacular in any examination until he has shown a distinct proficiency in the latter. A dead language like Sanskrit or Latin can be useful only to those who are likely to devote themselves to anthropological or philological research. For the ordinary man a modern living language is indispensable, and for our own students a good working knowledge of their own vernaculars would seem to be absolutely necessary. Besides the reading of papers, the rules of the Union were drawn up at a special business session. We give our hearty congratulations to the organisers of the S. I. T. U. for the success of its first conference and hope that it would be really instrumental in creating a true *esprit de corps* among the teachers of South India.

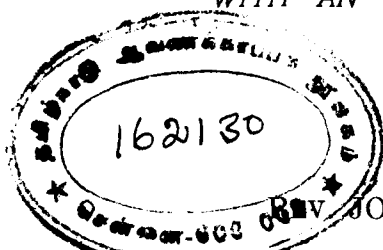
It is a matter for extreme regret that the question papers of our University examinations have leaked out this year on a grand scale. For some years before 1907 such leakage in our University was almost the rule. For some reason or other there was no such scandal in 1907. This year the disease seems to have broken out with redoubled virulence. Not only have most of the papers of the Matriculation Examination leaked out but also the English papers of the B.A. Examination. Not to speak of the inconveniences of re-examinations which comparatively are insignificant, the demoralizing effect of these irregularities is immeasurable. If it is possible to conduct re-examinations without leakage of questions, why should it not have been possible with equal watchfulness and care to prevent such things in the beginning? This is a matter that requires investigation and the blameworthy party must be brought to book. Another matter worthy of inquiry by the Syndicate is the manner in which a number of questions in one of the Mathematics papers of the B.A. Examination of this year happened to make their appearance in the final examination on the same subject of the Junior B.A. class in a first-grade College at Madras. We fear that this cannot be purely accidental, but for the honour of the teaching profession we hope the two papers were not set by the same person. It is an impression among students that if they join certain colleges they will have an inkling of the questions in University examinations. We cannot say whether this impression is groundless or not, but we fear that it has hampered the progress of many deserving institutions.

The Annual Convocation of the Punjab University for conferring degrees was held at Lahore a few days ago. The address to the graduates was delivered by the Vice-Chancellor. He dealt with the work of the Indian Universities with special reference to their influence on the Vernacular languages. The address contains a thrilling appeal which ought to touch the heart of every Indian graduate says Justice Chatterjee :
“ You must learn English and be able to write and speak it correctly and even elegantly, but you are too sensible to believe that you can ever attain any eminence in the world of literature in that language. For

that purpose your native tongue is your only hope and your only refuge. Do not despise it because it is backward and poor, as you would not despise your mother if she were poor or unadorned. It is in your power to remove its poverty and to enrich and adorn it, and that surely is the most patriotic course. Use the vernacular in which you think out your ideas in private life, but let it be a point of honour with you to cherish and improve your own language. You are full of love for your country, and one of the surest and best methods to do her good is to light the torch of knowledge for your less advanced fellow-men and to seek to instruct them through your vernacular." We heartily endorse every word of this appeal.

MACBETH

WITH AN INTRODUCTION AND NOTES.



BY

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