

451

THE EDUCATIONAL REVIEW

VOL. XXXIII JUNE 1927

NO. 6



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N27.33.6.
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THE EDUCATIONAL REVIEW

A Monthly Record for India

VOL. XXXIII.]

JUNE 1927.

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Factorising expressions of the type $a^2 + 2ay + y^2$ and $a^2 - 2ay + y^2$. Exercises. Factorising expressions of the type $a^2 - y^2$. Exercises. Factorising expressions of the type $a^2 + pa + q$. Exercises. Alternate method of factorising $a^2 + pa + q$. Exercises. Factorising expressions of the type $Ax^2 + Bx + C$. Exercises. Highest Common Factor. Exercises. Least Common Multiple. Exercises; **IX. Fractions** :—The Algebraic Fraction. The Principle of Equivalent Fractions. Application of the above principle—Reducing a fraction to its lowest terms. Exercises. The sign of a fraction and the signs of its terms. Exercises. Expressing fractions with a common denominator. Addition and Subtraction of Fractions. Exercises. Multiplication of Fractions. Division of Fractions. Simplification of Fractions. Complex Fractions. A Continued Fraction. Exercises; **X. Graphs** :—Function of a Variable. Plotting. Exercises. The Straight Line Graph. Reading from the Graph. 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Solution of Quadratic Equations. Exercises. Applications. Exercises. Evaluation from Formulae. Problems. Geometric Applications. **Appendix A Special Developments** :—(a) *Functional Notation*—Dependent and Independent Variables. A Rational Law as a Function of x . The Function-Symbol. Evaluation of Functions. Exercises. (b) *The Method of Detached Coefficients*—The Use of the Method. A Few artifices. Exercises. (c) *Homogeneity and Symmetry in Functions*—Notion of a Homogeneous Function. Properties. Applications. Exercises. Symmetric Functions. Exercises. Properties of Symmetric Functions. Applications. Exercises. Cyclic Functions. Exercises. Alternating Functions. Properties. The Use of the Signs Notation. Exercises. The F Notation. (d) *The Remainder Theorem of Corollaries*—The Remainder Theorem. The Factor Theorem. Exercises. (e) *Applications of the Principle of Undetermined Coefficients*—Exercises. (f) *Factors*—Exercises. Miscellaneous Cases of Factorisation. A Few Theorems. H. 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(முதல் பாகம்.)

பொருளடக்கம்.

I. எண் மானமும் எண் குறிப்பும்:—எண்கள்; இலக்கங்களால் எண்ணுகின்ற குறித்தல்; எண்களின் சமமதிப்பும் ஸ்தான மதிப்பும்; சமமான வழி. II. கோடுகளும் புள்ளிகளும் நள அளவையும்:—சதுரம்; வட்டம்; கோடுகள்; புள்ளிகள்; கோடுகளின் வகைகளும் கோடுகளுடன் பரீட்சிக்கும் விதமும்; புள்ளிகள் குறித்தலும் கோடுகள் இழுத்தலும்; நீள அளவு; டிவைடர்களின் உபயோகம்; எண்களை நீளத்தால் குறித்தல். III. கூட்டல்:—கூட்டலின் அர்த்தமும் உபயோகமும்; கூட்டலைப்பற்றிய ஓர் உண்மை; கூட்டலைப் படத்தால் காண்பித்தல்; அடைப்புக் குறிகள்; கூட்டல்; பெரிய கணக்குகள்; கழித்தல்; கழித்தலைப் படத்தால் காட்டுதல்; பலவகை கழித்தல் வழிகள்; கூட்டல் கழித்தலைப்பற்றிய சில விதிகள்; கலப்புக் கூட்டலும் கழித்தலும். IV. பெருக்கல்:—பெருக்கலைப் படத்தால் காண்பித்தல்; ஒரு ஸ்தான எண்ணால் பெருக்கல்; பாக்டர்களால் பெருக்கல்; எந்த எண்களைக் கொண்டும் பெருக்கல்; பெருக்கலில் குறுக்கு வழிகள். V. வகுத்தல்:—வகுத்தலைப் படத்தில் காட்டுதல்; ஒரு ஸ்தானத்தால், வகுத்தல்; பாக்டர்களால் வகுத்தல்; 10, 100 முதலிய வகைகளால் வகுத்தல்; நீள வகுத்தல்; வகுத்தலின் இன்னொரு அர்த்தம்; சில பெருக்கல் வகுத்தல் விதிகள்; பெருக்கல் வகுத்தலில் சில குறுக்கு வழிகள்; ஒன்பதுகளை நீக்குதல். VI. பலவன் வெண்கள்:—அளவை வாய்ப்பாடுகள்: நாணய அளவுகள்; நிறை அளவுகள்; நீள அளவு; பிடித்தல் அளவு; எடை அளவு; கரித்த அளவு; எண்ணிக்கை அளவு; இனமாற்றத்தல்; பலவன் வெண் கூட்டல்; கழித்தல்; பலவன் வெண் பெருக்கல்; பலவன் வெண் வகுத்தல். VII. கோணங்களும் அவற்றின் அளவும்:—தகை, திசைமாற்றம், கோணம், கோணங்களை ஒப்பிட்டுப் பார்த்தல்; நேர்கோணம்; சதுரங்களும் செவ்வகங்களும்; வட்டங்கள், கோணங்களின் அளவு; கோணங்களின் வகைகள்; ப்ரோட்டாக்கரைக் கொண்டு கோணங்கள் கிடைத்தல்; ஒப்புள்ளியிடத்தில் உள்ள கோணங்கள். VIII. டெஸிமல்கள்:—டெஸிமல்களின் அர்த்தம்; டெஸிமல் குறியில் ஸ்தான மதிப்பு; இரண்டாவது டெஸிமல் ஸ்தானம்; டெஸிமல் குறிப்பு பொது விவரம்; ஒரு டெஸிமல் ஸ்தானமுள்ள எண்கள்; டெஸிமல் கூட்டல்; டெஸிமல் கழித்தல்; எந்த எண்களையும் கழித்தல்; ப்ரோட்டாக்கரைக் கொண்டு டெஸிமல்களால் பெருக்கல்; ஒரு ஸ்தானமுள்ள முழு எண்ணால் பெருக்கல்; ஒரு ஸ்தானமுள்ள முழு எண்ணால் வகுத்தல்; பல ஸ்தான முழு எண்களால் பெருக்கல்; பல ஸ்தான முழு எண்களால்

IX. உயர்ந்த பொது அளவும் தாழ்ந்த பொது மடங்கும்:—அளவும் மடங்கும்; பொது அளவும் மடங்கும்; உயர்ந்த பொது அளவும் தாழ்ந்த பொது மடங்கும்; பாக்டர்களால் இரண்டு அல்லது இரண்டிற்கு மேற்பட்ட எண்களின் உ. பொ. அ. உம், தா. பொ. ம. உம் கண்டுபிடிக்கும் வழி; உ. பொ. அளவைக் கண்டுபிடிக்கும் பொது வழியைப் படத்தால் காட்டல்; உ. பொ. அ. பொது வழி. X. சாதாரண பின்னங்கள்:—பலவின் அளவுகளின் பின்னங்கள்; ஒரு கான்கரீட் அளவை இன்னொரு கான்கரீட் அளவின் பின்னமாகச் சொல்லுதல்; சமமான பின்னங்கள்; சமமான பின்னங்களைப் படத்தால் காட்டுதல்; பின்னங்களின் சமத்துவம்; தாழ்ந்த உறுப்புகள்; பின்னங்களை ஒப்பிடுதல்; பின்னங்களின் கூட்டலும் கழித்தலும்; ஒரு சாதாரண பின்னத்தை ஒரு முழு எண்ணால் பெருக்கல்; சாதாரண பின்னத்தை ஒரு முழு எண்ணால் வகுத்தல்; ஒரு பின்னத்தால் பெருக்கல்; பின்னத்தின் பின்னம்; ஒரு பின்னத்தால் வகுத்தல்; ஒரு எண்ணை ஒரு குறிப்பிட்ட டிஸிமலினால் உள்பாடி மாற்றல்; பின்னங்களைச் சுருக்கல். IX. வாடிக்கை முறை.—பலமாதிரிக் கணக்குகள். பரிட்சைக் கேள்விகள். விடைகள்.

முதல் பாகம் 1-வது வகுப்புக்கும் 1-வது பாரத்திற்கும், கிரௌன் 300 பக்கங்கள், விலை அணை 14.

(இரண்டாம் பாகம்.)

பொருளடக்கம்.

பரிட்சைக் கேள்விகள். I. டெஸிமல்களின் பெருக்கலும் வகுத்தலும்: ஒரு ஸ்தான டெஸிமல் எண்ணால் பெருக்கல்; சமமான பரிசோதனை; எந்த டெஸிமல் எண்ணாலும் பெருக்கல்; டெஸிமல்களால் வகுத்தல்; சமராய்ச் சொல்லல்; சாதாரண பின்னங்களை டெஸிமல்களாக மாற்றல்; டெஸிமல்களை சாதாரண பின்னங்களாக மாற்றல். II. சராசரி, டிவிஷியோ முதலானவை: சராசரி; ரேஷியோ; மாறாத ரேஷியோ; ரேஷியோவின் உபயோகங்கள்; ப்ரோபர்டிஷன்; லாப நஷ்டம்; வருமான வரி; கடன் மிகுதல். III. பாய் பளவு: பாய்பளவு; லாபநஷ்டம்; இலாபநஷ்ட பாய்பளவுகளும் ப்ரோபர்டி பாய்பளவுகளும்; பாய்பளவு வாய்ப்பாடுகள்; பிளான் வரைதல், அதாவது அமைப்புருவம் வரைதல்; தரையின் பாய்பளவும் ஈந்தவர்களின் பாய்பளவும்; கட்டக் காகிதத்தின் உபயோகம். IV. பொது எண் கணக்கு - சர்க்காணங்கள்: அங்க கணிதமும் பீஜ கணிதமும்; சில பெயர் விளக்கங்கள்; சமீகரணங்கள்; இன அங்கங்கள்; அடைப்புக் குறிகள் நீக்குதல். V. முக்கோணங்கள்: அவற்றின் பக்கங்களுக்கும் கோணங்களுக்கும் முக்கோண விரிப்பு; முக்கோணங்களின் கோணங்கள் பக்கங்களுக்குள்ள சம்பந்தங்கள்; ஒரு புள்ளியிலிருந்து நபத்தனைக்கணக்க மற்றொரு புள்ளி குறித்தல்; இரண்டு புள்ளிகளிலிருந்து சிபத்தனைகளுக்கு கணக்க மற்றொரு புள்ளி குறித்தல்; கொடுக்கப்பட்ட அளவுகளைக் கொண்டு முக்கோணம் வரைதல்; வட்டங்களின் சில தன்மைகள்; முக்கோணங்களின் வகைகள்; ஓர் புள்ளியிலிருந்து ஓர் கோட்டிற்கு பெர்பெண்டிகுலார். VI. கோடுகளையும் கோணங்களையும் இருசமபாகங்களாகக் கிடைத்தல்: இருசம பக்க முக்கோணங்களின் சில தன்மைகள்; நேர் கோடுகளை இருசம பாகங்களாகக் கிடைத்தல்; கோணங்களை இருசம பாகங்களாகக் கிடைத்தல்; கார்ட்களையும் வட்ட பாகங்களையும் இரண்டு சம பாகங்களாகக் கிடைத்தல்; ப்ரோபெண்டிகுலர்கள் இழுத்தல்; விம்மெட்டி. பலமாதிரிக் கணக்குகள்; முதல் பாரப் பாடங்களில் புதிய புண்குறைகள்:—கூட்டல் கழித்தல்; பெருக்கல்; வகுத்தல்; பலவின் எண்கள்; கோணங்களும் வட்டங்களும்; டிவிஸிமல்கள்; உயர்ந்தபொது அளவும்; தாழ்ந்த பொது மடங்கும்; சாதாரண பின்னங்கள்; பலமாதிரி. 18-வது பாரப்பாடங்களில் பலமாதிரிக் கணக்குகள். பரிட்சைக் கேள்விகள். அறுபத்தாம் விடைகள். of B. இரண்டாம் பாகம் 2-வது பாரத்திற்கு, கிரௌன் 208 பக்கங்கள். விலை அணை 10.

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The Educational Review

A Monthly Record for India.

VOL. XXXIII.]

JUNE 1927.

[No. 6.]

All literary contributions, books for review, newspapers, or magazines, sent in exchange, &c., should be addressed to the Editor, No. 4, Mount Road, Madras. Articles and communications intended for publication in the succeeding issue should, as far as possible, reach the Editor not later than the 20th of the month. The Editor solicits contributions on all subjects of educational interest. Stamps should accompany the MS., if the writer wishes it returned, in case of non-acceptance. The Editor can in no case hold himself responsible for accidental loss.

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UNIVERSITY REFORM IN
MADRAS.

By AN EDUCATIONIST.

I.

THE enquiry started by the appointment of a Commission on University Education under Lord Curzon which culminated in the Government of India Universities Act of 1904 started a discussion on a very important question which far transcended the immediate purpose, and could hardly be said to have died down even after more than a score of years. One may regard it as satisfactory evidence of active public interest in a vital matter such as education should be in a community, if evidence to the contrary be not available in some measure and of a character which may disconcert even the placid equanimity of the educationist. As it is, however, one has certainly to take note of the fact that they are and proceed to discuss the problem on the existing basis of verifiable facts. The Commission which ultimately ushered in the Act of 1904 laid emphasis, perhaps laid too much emphasis, on the defects of the examining

University such as the Indian Universities at the time were, modelled as they all of them were on the University of London. The Act of 1904 therefore had for its main object the giving of a bias to the Universities towards a gradual transformation of the merely examining Universities into something approaching to the ideal of a teaching University. The Act therefore was framed with this end purpose which showed itself obliquely in the constitution that was given to the University and the conditions under which colleges could undertake education of students for receiving University degrees.

Without going into unnecessary details, it may be pointed out at once that the constitution of the University contemplated by the Act was very simple, composed as it was of two bodies, a Senate which was the University itself with a Syndicate, in every sense of the term an executive committee of the Senate drawing all its power, even the discretionary, from the Senate itself, so that the Senate and the University may be regarded almost

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as synonymous terms. The Senate which before the Act of 1904 was a vast unwieldy body of more than 350 members was constituted of men who were made to regard nomination to a Fellowship as an honour and not as involving educational work or responsibility. The consequence of this was that while the Senate contained a very large number of members, the average at meetings

By hardly exceeded about seventy, thus indicating an unhealthy state of affairs. The new Act therefore

An a made this unwieldy and useless body, from the point of view of active work, into a more handy and really working body of hundred composed chiefly of those engaged directly or indirectly in the work of education. The Act itself was simple

By in scope and definition and admitted of immense possibilities for the purpose for which it was intended, namely, the gradual transformation of a

Prov purely examining University into one with important teaching functions, if not a teaching University, which was an impossibility in the geographical circumstances of the position, not to mention

By other difficulties. Each of the Universities therefore framed its own regulations with a view to this particular purpose and proceeded on its own lines

A be of development, although the Calcutta University and to provide from the very beginning took a line which the Government of India found it difficult to sympathise with, and thus introduced a controversy which could hardly be said to have died down as yet, although the protagonist on the side of the

A c University has been dead some years now. Notwithstanding the tendency to narrowing higher education which was possible, the Act worked well enough and could have done a great deal more in the direction of achieving the ostensible object with which the Act was introduced, if only Governments in those days and the public alike had shown more liberality and provided it with the funds necessary for carrying out this vital improvement. Notwithstanding the example of the Government of India which made the recurring grant of a crore of rupees to these Universities on the occasion of His Imperial Majesty's Coronation in Delhi, the

funds could hardly be said to have been placed adequately at the disposal of these Universities, though the Government's inclination therefor had not been wanting. As the Universities got into full working order, the most devastating of wars broke out and lasted for a period of time which was possible only because of the great progress in Applied Sciences that Europe had made in recent times. As in so many other departments of life, this had the most crushing effect upon the progress of University education as well in this country as elsewhere. With the advent of peace came also the introduction of the reforms under the Government of India Act of 1919. The double disturbance thus introduced did not make for progress in University ideas any more than the war itself, and, as if these were not enough, a new University Act has been introduced without sufficient attention to the actual requirements of the times and the constitution of our University. Thus the University has been brought to a position for which it would be too much to hold the University itself responsible, nor can it be said with any approach to truth that the authors of the Act actually realised, or attempted to discharge, their responsibility adequately. In the circumstances it would be a travesty of criticism to say that the Universities Act of 1904 proved barren of results so far as the Madras University is concerned, and the Act of 1923 had justification for its introduction in the fact that the previous Act proved a complete failure.

It need not be understood from the above general retrospect that the Act of 1904 was perfect in every detail, that no improving of it was possible either constitutionally or academically, that therefore the introduction of the Act of 1923 was a crime of the popular administration of the time. We are very far from making any statement of the kind. What we wish to point out is that the Act of 1904 was quite good enough for a University Act if only it had the chance of working out properly. If the Act of 1923 intended merely to remedy such of the

the previous Act had exhibited, it need not have gone all the way that it has actually done. We might even go the length of saying that in many particulars the new Act perhaps is even worse than the Act which it superseded. When all is said and done, the Act may be able to do something towards improved University education, but University education cannot be improved by mere Act alone, or by the mere label of a University of this kind or of that kind. University education, as every other kind of education can be good, exceedingly good, under various Acts equally. It depends ultimately upon those that are engaged in the imparting of University education and the ideal that they set before themselves in actually carrying out the work. An Act might perhaps indicate or at the very best foreshadow this ideal if an Act had been introduced with the active sympathies of those whose function in society is the education of the youth of the country. The old Act made a deliberate move in the direction of making Universities gradually develop a teaching side. This proceeded on the recognition that with the older Universities of India the area to which they had to provide University education was far too extensive for a simpler form of residential, unitary Universities. Unless the ultimate idea was to have something like a score of Universities for each one of these provinces, it was impossible to realise that ideal. But while a University remained affiliating for a considerable part of the area concerned and for certain grades of University education, even a teaching University was possible for the really elite among the students even in provinces with vast areas like Madras, Bengal and Bombay. This merely required development for which a more active stimulus in the shape of sympathy and funds was what was required. The glaring defect of the constitution was that in the Senate of 100, it was only ten places that were thrown open to public election by Registered Graduates; ten more were thrown open to the Faculties which were bodies of the Senate itself, and as many as eighty were retained for nomina-

tion by the Chancellor. This constitution could easily have been modified without much thorough overhauling and what was desired by way of public representation could have been easily achieved. As many as eighty could have been thrown open to public election if that should be deemed a desirable change, as there could easily be differences of opinion, and honest opinion too, in regard to it. The objects aimed at in the Act of 1904 could have been realised and the defect existing in it could have been a great deal removed by a simpler modification of the constitution like that. The teaching institutions required improvement on the academic side. That was an improvement which could have been brought about without any drastic remedy if only responsible commissions could be appointed from time to time to inspect and report upon the teaching facilities and equipment in colleges providing courses for University degrees. The course adopted was not an amendment of the University Act as it existed, but a complete reform of it by the introduction of a new Act in the make-up of which much has gone in which has no need to be there at all. The result has been an Act with all the paraphernalia of various bodies, academic and administrative, with their powers and spheres badly defined and hardly distinguishable often, and thrown upon an academic body to work out which can hardly sympathise with the aims or objects on the one hand and the complicated machinery provided for working it out, which the Act had actually provided. The Act has already been in existence for four years and the University is no nearer having brought the Act into operation even with the greatest good-will that could be put into the work. The net achievement of four years' work from the point of view of real University education, is the adoption of a modified Intermediate course and nothing else.

The year 1912 marks a turning point in the history of the University under the Act of 1904. It was in that year that the Government of India

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made the grant referred to already, of which the share of the Madras University was an annual grant of Rs. 65,000. The University took the first step towards an approach to a teaching University in the appropriation they made to utilise this Government of India grant. There was acute difference of opinion between the votaries of science and those of letters in respect of the appropriation of this annual sum. It was ultimately decided that the annual grant be devoted to the promotion of a department of studies peculiar to South India, and that is the creation if possible of a Dravidian or South Indian School of Studies. The first appointment sanctioned in the creation of this school was a Chair of Indian History and then a School of Languages. As a necessary preliminary to both, a considerable part of this sum was set apart for the creation of a really good University Library. The annual imperial grant therefore was thus appropriated to two main purposes we may say, the creation of a University Library worth the name and the creation of a South Indian School of Studies with a view to promoting the study of South Indian languages on modern lines in all its aspects, historical, critical, linguistic, philosophical and other. That was the first departure.

It may be said at once that in both the sections, the ideas underlying the inception were certainly good; and if in carrying out these ideas the same good sense had prevailed, there should have been something infinitely more to the credit of the University than has actually turned out to be the case. But as ill-luck would have it, the institutions were started readily enough, but the judgment which was required for giving them the very best chances of working with success was conspicuous by its absence. They created a Dravidian School, but placed it under the control of a philologist, who laid no claim whatsoever to any work in Dravidian. The Readers appointed were undoubtedly qualified men. Their qualifications and their inclinations pulled one way; the Director's interest and inclinations pulled the opposite,

with the result that it reached such an *impasse* that the school had to be disbanded as it were. It followed as a consequence that the Chair of Philology itself was put an end to.

Under this arrangement the Chair of Indian History had to be mainly devoted to research work, not altogether without a certain amount of teaching which, of course, in the circumstances of the development of the other section, had to remain comparatively subordinate. The Chair had continued to be a Chair of Indian Historical Research all the time with a creditable amount of output as such.

Another departure that the University made about the same time is to take over the work of the Tamil Lexicon initiated already by the Government. It is here that the University Syndicate showed how utterly unqualified a body like the University Syndicate could be in conducting a work of research such as that on a Tamil Lexicon. The initial blunder was committed by the Government in undertaking to control a work which required qualifications of a high order in the directing agency, and appointed to carry it out a *personnel* by no means the most competent to conduct work of that kind. The Syndicate though an academic body showed itself no wiser in the management of the work than in the accepting of the responsibility. The number of changes that they made in the editorial staff and the number of times that they changed plans of work were alike enough to have made any real progress in the work impossible, even if it should have been entrusted to the most competent hands. The work therefore had been dragging its weary length and the art of mismanaging has not yet reached perfection. The men that could do the work best or control it wisely are not there, and the qualifications for managing the work have the possession of the smallest qualification taking part in it. Small wonder that progress is slow, and if it gets to quicken in pace, it is inferior in quality by very much more than

simple proportion. The management of this work by a body like the Syndicate during the last fifteen years and more is an object-lesson how not to manage academic business.

The University Library work has suffered interruption in both its departments on account of the war. The building-up of a real University Library so far as the acquisition and arrangement of the books are concerned have gone on satisfactorily notwithstanding this interruption, and the Library may now be said to be something like a University Library, though there are a number of departments in which it requires additions and completion and cataloguing on a rational scheme. We cannot say anything so satisfactory in regard to the structure of the Library building which was an essential part of the plan. Notwithstanding the fact that the foundation-stone was laid soon after 1912 by the then Viceroy Lord Hardinge, we are not yet at the foundation of the University Library, and the new University Syndicate has been muddling through the whole business as badly as ever any body of people could do, so that in the year 1927 we are no farther ahead than we were in 1913. The chance of taking a step forward definitely, the Syndicate under the new Act has had. They have thrown away the chance and have simply reverted to the position of 1913.

Along with these, and with other resources than the Government of India grant, was ushered into existence by the Senate and the Syndicate under the old Act, a School of Economics primarily for carrying on investigations and conducting research in the economic condition of India, particularly the South. There was a non-recurring grant of Rs. 40,000 which was supplemented by a ten thousand rupees donation from an *alumnus* of the University; these were pooled together and a Chair was instituted. The appointment to the Chair followed in 1915, and Dr. Slater was appointed to the post. A certain amount of investigation was undertaken, and as a tangible addition a school for teaching Economics was

started which led up to a Diploma in Economics. As a further step forward, and under the new Act, the school took upon itself the teaching of Economics for the Honours courses in certain special branches. Although it is doubtful policy, at any rate from the point of view of what was the recognised University policy under the Act of 1904, to have taken up regular teaching that colleges under the University are bound to do, the school continues and the Government have recently undertaken to provide the funds for this particular school. The school had been maintained during the first five years from the pooled-up resources as indicated above, and subsequently from the savings from the Government of India grant after the abolition of the School of Dravidian Languages. It now stands upon its own footing and is provided for by a special Government grant under the new Act, though the initiation of the school was to the credit of the old Act.

It will be seen from this retrospect that the Universities Act of 1904 could show creditable departures in the direction of developing a teaching side to the University of Madras. For these developments to work out in full there were impediments unlooked for as well as avoidable. The war for one thing held up much. Want of understanding and other defects both of principle and of personnel there were. Notwithstanding these the working of the old Act must be credited with an honest effort at attempting what was seriously attempted to be done since 1912 at any rate, when the whole of the regulations under the new Act had been brought into force, more or less. What was wanted for a fuller realisation, apart from unavoidable causes, was first and foremost funds. The readiest source of course had always been Government, and, in the actual circumstances, it was impossible that Government could have contributed much. What was absolutely true of Government was substantially so even of private resources during the period of war stringency. That is the chief factor of defeat. But the avoidable defects of the system consisted

in the University machinery such as it was, though handy and capable of efficient working, not being sufficiently alive and responsive either to the actual needs of education, or to the legitimate demands of national feeling and sentiment. Indian studies generally did not receive that sympathy and attention that they deserved. Even where some of these studies were initiated they lacked generous support on the part of the authorities, nor could it be said that the feeling for this, such as it was, showed itself in a way to demand attention. People concerned were not altogether oblivious to the defects of the working of the University under the old Act. Occasion was taken of the publication of the Sadler Committee Report on the Calcutta University. Various Committees of the University were set to work and drew up proposals for adoption by this University. The obvious course of reform therefore should have been to have attempted an amendment of the Act of 1904 (1) by a simple modification of the constitution to the extent of giving larger public representation on the Senate itself, and (2) by carefully considering and adopting such of the proposals of the various Committees on the Sadler Report as would have carried the University further forward on the lines of developing a teaching and research centre at Madras distinct, and yet not altogether unconnected with the affiliating functions of the University as such. Instead of adopting that simple, and what would prove a more effective remedy, the popular Government of the day jumped into an Act which while ostensibly attempting to do no more has effectively introduced a machinery in the constitution which, while it aggravates all the evil tendencies of the older arrangement, has not provided the saving feature at least of efficient working. We shall proceed to consider the features of the new Act and the way that it has worked during the four years of its existence.

II.

The Act of 1923 began ostensibly with a view to remedy the defects that the old Act exhibited

in its working, but in actually framing the Act they were carried far away from the original object by importing considerations not perhaps quite germane to the subject of the Act and by following too closely other University Acts accepted by the Government of India for other centres such as Allahabad and Patna. The patch-work character of the Act is quite visible in the reading of it. This defect notwithstanding, it is clear that the Act was intended to do two things prominently:—(1) to create in Madras a teaching University distinct in point of character from its functions as an affiliating University and, (2) to give the University, a two-faced University as described above, a constitution apparently intended to meet the demands of its two faced character that of a teaching and an affiliating University in one. It is an illogical combination to begin with. If the function was to work the Act at all satisfactorily for either side, the kind of constitution provided is not the constitution that could work it. Experience has shown elsewhere that this kind of a combination would not work satisfactorily, and Allahabad has already gone forward the logical extent of dividing its life into two; Allahabad remaining a teaching residential University with the affiliating part taken away from it by the creation of the affiliating University of Agra. Such a necessary consequence was not altogether unforeseen as the Madras Act of 1923 seems to provide for this contingency which it was expected would come in process of time. The solution anticipated seems not intended to be that which became necessary in Allahabad, but somewhat different in character. The Madras University was apparently intended to have an uninterrupted development towards fulfilling itself as a teaching University—to that extent continuing on the lines of departure adopted under the old Act of 1904—the affiliating part of it however was to detach itself gradually and by instalments. The Madras University itself was, by a quinquennial inspection, to mark off places containing educational institutions which may be regarded as ripe for being declared University centres so that they may work themselves out into fully developed Universities in the course of a number of years. If the

Government were willing either directly or indirectly to shoulder the whole responsibility and provide the necessary funds for bringing about this change earnestly and ultimately at all costs, the scheme need not be regarded as a bad one in principle. But the Government that was responsible for the Act however do not seem to have realised the position clearly enough to have made the requisite provision for it. The constitution devised for the University shows all the marks of this indecision on the part of the authors and provides a machinery which cannot but show undue friction and obstruction in the working. A teaching ideal and an affiliating ideal cannot go exactly into team work. From the very beginning the University has shown this incompatibility so that at every step, the working of the Act on the part of the Senate or the Syndicate of the University towards going forward in the direction of developing Madras into a teaching University evoked the not unnatural jealousy of the affiliating portion, so that in the result the ultimate ideal reachable by the Madras University seems clearly to be that to which perhaps the weakest affiliated College could attain to. This cannot be regarded as at all healthy. If the Government had made up their mind therefore through their legislature to work the two together they ought in logical consistency to have given it a constitution which would be sufficiently autocratic in character to keep the two ideals distinctly before them and carry out that which was necessary for the development of each part with adequate provision and perhaps absolute authority. With the constitution provided this is obviously impossible. Hence the progress made in the four years is infinitesimal in comparison, and we are in a position at the commencement of the fifth year of not having moved any farther than tinkering with the intermediate courses, let us hope the course has been improved, without perhaps attaining to a sufficient degree of guarantee for the enduring character of the improvement, if any claim in this direction is sustainable as yet.

It was already pointed out that under the old constitution there were only two bodies of importance to carry on the work of the University, and in the last resort even these two could be reduced to a single all-powerful body, the Senate. The Syndicate, the Faculties, the Boards of Studies, all these, each in its own sphere, had to function as carrying out some part or other of University work deriving their authority ultimately and directly from the Senate, and could be regarded, each in its own particular sphere, as a Committee of the Senate. The Senate itself was a handy body of a hundred people most of whom had or ought to have had direct knowledge of University administration. The one defect, it was a real defect, was that the elective element was very small and therefore the popular side was not adequately represented in the Senate. Even this character was perhaps not altogether an unmixed evil, as it was very rarely the case in elections that men were chosen that counted educationally. Even so, a much larger number of seats could be thrown open to election and that undoubtedly was a desirable reform. But the Senate that took its place swung round to the other side so completely that the Senate under the new Act can hardly be regarded as a body of educational administrators, pure and simple. It oftentimes is regarded that the really important matter is administration, and what is wanted in this body is really men with capacity for administration of Municipalities or Districts, without the slightest taint of education. It is axiomatic that in educational administration, though administrative capacity certainly ought to count, what is wanted is not administration pure and simple, but administration with sufficient understanding of the educational bearings of that administration. It is generally recognised that educational administration is essentially administration by consent, and hence it is that in educational management whatever be the administrative body concerned, adequate representation of the educational element is always insisted on. While therefore there is a

ment is a recognition of this principle underlying University organisation. The simple question therefore is whether the Madras University should function mainly as an affiliating University with a gradual development of a teaching side as under the Act of 1904, or whether it should go further forward towards making itself a teaching and residential University as the Act lays it down or of making a near approach to it. A teaching and residential University strictly so-called may or may not be possible in Madras; nor should a teaching and residential University be strictly and absolutely of only one pattern, the familiar pattern of Oxford or Cambridge, or it may be some of the Australian Universities. The ideal underlying that description may be realised in varying degrees under circumstances of a vitally different character. What really matters is not the mere actual or external form of the constitution, but the real spirit of the working and of the kind and character of education imparted, taken in the broadest and real sense of the term. The physical facts of the locality, the social organisation of the community concerned, and the sixty years' tradition that has been built up educationally, have all to be allowed due weight, and if an approach is to be made to the ideal of a teaching University elsewhere, the attempt ought to be made to achieve the end not by wiping out everything that exists, with a view, either to copying a pattern from elsewhere which at the very best is of doubtful efficacy for success, or of actually adapting the existing machinery to attaining the essential character of the ideal. A great deal has been said of the moral poverty of the education imparted, its failure to build up character and all the other clap-trap of the sentimental moralist on the one side. One also does hear, on the other, occasionally the dogmatic assertion of educational achievement under the old order of things calling for no improvement whatsoever. Either attitude seems to be natural enough, but neither of them presents both sides of the picture. Even an affiliating University pure and simple and a mere examining body such as

the pre-Curzon Universities have been represented to be, could have done, and did do to a great extent, the good work that a teaching University is expected on all hands to do; the only difference being, in a teaching University, the University is expected to do everything; and in an affiliating University, the University could only influence and bring pressure to bear upon the colleges to do it. The fault lay not so much in the affiliating character of the University, but in the capacity that the University has for moral suasion of any kind. But still examples could be quoted of colleges influencing the whole life of the candidates that came under their influence preparing merely for University examinations and by means of these examinations attaining to a degree, so that it is clear one need not make too much of a fetish of a term, or even of a particular pattern of an institution, impliedly or explicitly connoted by the term. Education is in the last resort the question of the teacher and the taught. If it is possible to produce good teachers and set them to teach, it would be easy to influence the character of the youth to any extent desired. It ought to be no more than influence under any circumstances. Whether the University is going to be called a teaching University, the teaching being imparted in one building or one block of buildings, under one set of organised teachers or more sets would not really matter. If those that are engaged in education are actuated by real ideals of the educationist, and, if there is something like a common feeling for the profession and a common opinion created among the members as to what exactly should be that ideal, a great deal more could be achieved even under the existing organisation, different as it may be from known examples of teaching Universities elsewhere, so that minor differences of organisation notwithstanding, the teaching ideal of a University is capable of realisation under a variety of circumstances, the actual combination of circumstances obtaining in Madras included. All that is wanted is a strong academic opinion and a sense of duty which would guarantee

that that opinion will be given effect to. A teaching ideal of a University therefore is realisable in Madras if only people concerned set about it earnestly to achieve the ideal.

Assuming therefore then that the teaching University ideal is worth attempting in Madras, the question would naturally arise as to how exactly to do it. One way of doing it certainly, perhaps the readiest way, is to detach it from its affiliating associations and putting it upon a footing of its own, distinctly recognised and capable of being worked separately. The Act actually attempted to do it by effecting that separation though in the actual working, it fell back from giving effect to it, frightened as it were by the shadow of its own creation. The first essential to a teaching University ideal is funds. The Government had no business to create, or at least make a pretence of creating, a teaching University without finding funds for it and making a provision therefor in advance. The Government did make a show of an advance provision and ran away from it almost immediately under a plea that the amount not being utilised lapsed to the Government. If the Government were serious about the business it could not have been any more difficult for them to have provided for the sum in the next budget, or, what is even better, to have made the grant over once for all to the University and keeping it by adding to the grant from year to year to the extent that the budget necessities of the State would allow. That is the idea of block grants which again has been propounded without being actually carried out. If therefore the Government is in earnest about the teaching ideal of University for Madras, it is none too soon to set about it earnestly and carry forward more actively what exactly was attempted to be done since 1912 under the old Act itself. They ought to have been more true to themselves and have provided a certain number of lakhs of money to be utilised for the purpose of this transformation. It would not do to offer the grant and about eight

months after to say that it lapsed to the Government. A University can hardly transform itself so quickly. Having regard to the vast extent of the Presidency, the number of colleges offering instruction and the number of students seeking entry into the University, a teaching University at Madras is an absolute necessity of the position. If the best of the Madras students should have a chance of competing on equal terms with the best graduates from other Universities of the British Empire, at any rate, the best interests of the public demand this inexorably. The question then becomes a question of vested interests and how to adjust the relations between the teaching University and the affiliating University. The most logical solution would have been to have given them two completely separate organisations by creating, as it were, two Universities at Madras, an affiliating University of Madras and a teaching University of Madras. But that is not the only solution of the problem. A teaching University might have an affiliating side to it tentatively, the affiliating side gradually detaching itself into another or a number of Universities. The former plan has worked itself out in Allahabad, so that in the course of about five years they have come to, as near as may be, a really teaching University in Allahabad and a separate affiliating University in Agra. Madras began differently by the adoption of the latter alternative which in itself is not bad. But the constitution that was given to it and the way that it has worked during the past four years shows that those that have the ordering of the arrangement either do not understand what was intended to be done, or that they are entirely out of sympathy with the idea involved in the position. Hence we are in the anomalous position of a so-called teaching University working up to an ideal of a perhaps even inferior affiliating University than the old Madras University had been, the whole defect being due entirely to the bad constitution, not altogether without unsympathetic working of that constitution such as it was. Those therefore that take upon themselves to suggest amendments to the Act, or if amending the Act itself, have to make it clear to themselves and to others whether they

are going to maintain the idea of a teaching University of Madras or no, and till this is clearly settled one way or the other, no steps need be taken towards amending the Act, for the simple reason that the amendments which may be valid for one, need not be, and will not be, valid for the other. Taken as a whole, the amendments proposed by Mr. Satyamurti will result in reducing the University to the condition under the Act of 1904 without the simplicity of organisation that that Act had given to the University. If it is a question of going back upon the teaching University ideal, we may frankly go back to the Act of 1904 with only two or three comparatively slight modifications of that Act and try to work the University as essentially an affiliating University with as much of the teaching and research University added to it according to needs as funds would permit.

Taking it then that the ideal of a teaching University for Madras is not thrown overboard, the first question that challenges our attention would be whether an honorary Vice-Chancellor could do the work. The Vice-Chancellor's duties are defined under the Act as "that of the principal executive officer of the University. He has to ensure that the provisions of the laws are faithfully observed and carried out. He has also some emergency powers and is empowered to exercise general control over the affairs of the University. There is also the usual omnibus that he should also exercise such powers as may be prescribed." What does this definition of powers of the Vice-Chancellor involve? It does actually involve far more of executive powers than either of the first two Vice-Chancellors have actually chosen to exercise. A whole-time Vice-Chancellor is not here merely to conduct meetings, much less conduct them badly for want of adequate preparation. If this were all the business, an honorary Vice-Chancellor could do it, perhaps a little more efficiently even. He need not supervise the work of the Registrar's office so long as there is an academic Registrar. For this purpose a Vice-

Chancellor is a superfluity. His general control over the administration of the University is something very different from looking after the work of the Registrar's office. His principal business is to see that the laws are actually carried out. How can this be seen? A college is recognised for teaching particular groups of subjects. A certain number of colleges are given recognition on the basis of co-operative teaching. It ought to be the function of the Vice-Chancellor to see that these are carried out not by sitting in the office and ordering the record of papers that may come, but he ought to be able to assure himself, assure the Syndicate, assure the Senate and the Academic Council that the ideas and intentions underlying the laws that may be made in regard to these and similar matters are actually given effect to both in the letter and in the spirit. That means a Vice-Chancellor who should move about, visit colleges, get acquainted with the details of the arrangements under which teaching work is carried on and even be able to form an opinion for himself as to how exactly that work is being conducted without being censoriously incompetent or incompetently censorious. It is these academic functions that form the main duty of the Vice-Chancellor. This kind of work involves responsibility and the delicate exercise of it so as not to sap the responsibilities of the institutions and individuals actually carrying on the work. Similar functions perhaps in a larger measure await the Vice-Chancellor's attention in regard to the affiliated colleges. That is only an example of what exactly a Vice-Chancellor is expected to do as the chief executive officer of a University. In ordinary cases on matters of University administration, the Syndicate will have to act upon the information of the Vice-Chancellor and the Vice-Chancellor must be so posted in the details of the work as to be able to give the information to the satisfaction of the members of the Syndicate, jointly and severally, so as to enable the Syndicate members and the Syndicate to come to a decision on the facts of the case. If the Vice-Chancellor realises his responsi-

bilities as the chief executive officer of the University, he will have very hard work to do, and it would be folly to make the place honorary and part-time. From what has been said above, it would be clear that the Vice-Chancellor must be an academic man, with actual experience of academic work and administration, who understands the conditions of work and is in sympathy with those actually engaged in carrying on the work. High Court Judges and Advocates of high income may prove excellent in their own way, but that is not the kind of Vice-Chancellor that Universities at this time of day should be provided with. It should therefore be a step in the wrong direction to make the Vice-Chancellor part-time and therefore honorary. Even if we should revert to the type of an affiliating University it would be a distinct gain to the University to have an academic Vice-Chancellor and a whole-time man who can devote his entire attention to the work of his responsible office. It should be no argument that because these functions were not discharged by the first two occupants in any measure these are not to be discharged for all time. It may be said in justification of the first Vice-Chancellor that the whole of his two years was taken with the drafting of the laws with a view to actually bringing the new state of things into existence. Much the same can be said of his successor, but it may be frankly said that it was open to this full-time Vice-Chancellor to have done more and to have done better than has actually been the case in very many departments of his work. But that is no argument that there is not enough work for a full-time Vice-Chancellor on the academic side of his duties. The Vice-Chancellor must be full-time and must be given an adequate salary to maintain his position with dignity and comfort, so that he may do his work with understanding, independence and efficiency.

The University Act of 1923 which has been in existence for the last four years is already found to be so defective that there are active movements for reforming it in several particulars. It is not

too flattering to the framers of the Act or to the Government that passed it that it should be regarded as so defective as to need vital amendments even before it has actually been brought into operation academically. On the academical side of it what the new Act has so far done is to come to an agreement in regard to the courses of studies in the Intermediate and the reformed courses are expected to come into operation only from the new academic year. This means either that the University authorities constituted under the Act have been able to do but little work under the existing constitution, or that something else out of the common has actually come in the way of bringing the Act into active operation. The Act of 1904 was working well enough and nobody thought that any amendment of it was at all called for except in details which it was possible to bring about by the University itself till the Government of India published the report of the Sadler Committee upon the Calcutta University. The character of the Committee and the recommendations that they made were regarded as of such far reaching importance that other Indian Universities naturally took it upon themselves to reconsider their position in the light of the report with a view to such reform as may be called for from the point of view of the report of such experts of high character as the Sadler Committee was composed of. The Madras University like the sister Universities had appointed various Committees for considering various departments of its work and the Committees reported each in its own particular way. An amendment of the Act therefore would ordinarily have taken on the character of amending the Act of 1904 to remove the unsatisfactory features so as to bring about a more satisfactory working of the Act itself. But in regard to one great principle emphasised in the Sadler Committee's report, namely, the creation of a teaching University at Calcutta with dependent colleges elsewhere, the Committee have actually pointed out that that was quite feasible in Bengal with the dominant position that Calcutta occupied as an educational centre, the Committee of the

dras University which considered this report are distinctly of opinion that, having regard to the conditions of Madras, this radical recommendation of the Sadler Committee may not be feasible. The new Act of 1923 was introduced by the Justice government at the time, not altogether to meet the requirements of Madras as reported by the various University Committees, but to make a new Act altogether to subserve the ends of education certainly, but not without a very considerable admixture of ends other than educational. The result is the Act of 1923. Yet it set itself to do three things, as the Preamble makes it clear, (1) to create a teaching University in Madras by making Madras altogether a separate educational centre; (2) to retain the affiliated colleges and the affiliating University of Madras such, encouraging co-operation among the affiliated institutions in suitable centres in such a manner as to bring about separate Universities in these centres in course of time; and (3) to work ultimately to the ideal of a number of Universities in suitable centres. The Act, it must be said once, was apparently framed with a view to pass these three separate ends; (1) a teaching University at Madras, (2) an affiliating University of Madras with affiliated institutions all over the Presidency, and (3) the creation of Universities at distant centres. On the face of it, the Preamble indicates a distinct and even distant vision, and sets itself out with open eyes, as it were, for doing these things for University education in the country which must necessarily involve a very considerable amount of expenditure. Nobody that was responsible for the Act can actually say, in the case of the Act, that he was not prepared for the expenditure, and expenditure large in volume and to be met only by Government as there is nothing in the Act to show that those responsible explored the possibilities of other resources or actually relied upon them. It stands to reason therefore to say that the Government that was responsible for the passing of the Act, was prepared to shoulder the burden of financing the teaching Univer-

sity at Madras adequately, of finding resources for making the affiliated colleges and the University more efficient, and of being prepared to find funds for the development of Universities in other centres. If they at all honestly intended to carry out these intentions of theirs, the last clause of the Preamble should have made them realise that they should be prepared for making adequate financial provision for at least half a dozen Universities in the course of the next decade, or perhaps eight, the more likely number. The Act breaks at the outset in that. One year after the passing of the Act the Government went back by a *volte face* upon the financial implications of their own Act. No single step has so far been taken towards bringing the colleges at Madras to work together among themselves in co-operation; no single step has been taken to bring the colleges in Madras in closer touch with the University academically—no more than they were before this Act. As a matter of fact, it can be said now that perhaps the colleges in Madras are in a distinctly worse position from the point of view of academic co-operation in respect of teaching resources. Perhaps they are not yet in a distinctly worse position in regard to the relation between the University itself and the colleges. Why is this, is the first question that will have to be answered.

It must be due to one of two causes: either there is absolutely no sympathy with the idea in those whose responsibility it is to work the Act, or they do not understand the bearings of the Act adequately. It may be a combination of both. If the defect is due to the constitution, then the constitution requires to be amended. One hears proposals that the full-time Vice-Chancellorship must be abolished or the constitution of the Senate must be amended. For considering either of these proposals we ought to know what exactly it is that the University is working for. Are we going back to the condi-

tion of an unqualified affiliating University at Madras both in regard to the town and in regard to the mofussil as under the old Act with merely such efforts as may be made to develop a research and teaching side to it; or do we still hold to the resolution to create a teaching University here and a number of other Universities elsewhere? That fundamental question will have to be answered before any reform is actually attempted.

In the course of the four years of working judged by what has been done, one may say without hesitation that there is a considerable want of understanding of the actual bearings of the Act in those who have had to work it. Neither the Syndicate, nor the Vice-Chancellor as the chief executive officer of the University, have shown knowledge of the actual aims of the new Act, nor have they given the lead that was expected of them in regard to the matter. While the first Vice-Chancellor was a man with vast University experience and quite capable of distinguishing between the aims of the new University and the objects of the older, the new Vice-Chancellor cannot be said to have the same grasp, although one may admit that he perhaps is in more active sympathy with the aims of the Act than his predecessor. But the composition of the Syndicate is such that, even if he were so minded as to be more active in the realisation of the aims of the Act, they would not permit him to go ahead. The more active members among them are too much obsessed with their own importance to study the actual needs of the situation created by the Act. They imagine that the University notions sprang into existence with their advent into the Syndicate and before the Act of 1923, nobody had any correct notion or even adequate knowledge of what

a University is or should be, a notion quite detrimental to any honest working of an institution like the University. Such a notion results in the petty procadilloes of privileges being the only things attended to to the utter neglect of problems of policy and practical steps for the attaining of the higher ends of University education. One may readily admit that the University Syndicate is an administrative body, but a body that would forget that the administration they have to carry on is educational administration, or much worse have no adequate notion that it is administrative education, is a body that is bound to fail. The remedy lies in improving the character of the body. Will the suggested modifications meet it, or how else is the improvement possible? The abolition of the full-time Vice-Chancellorship or docking out his salary will not mend matters. If the three objects set before the Act by itself are not to be thrown to the four winds, there must be an academic Vice-Chancellor of high attainments and academic experience, and a man of that character and standing cannot be had for nothing. He must be paid a salary adequate to maintain his dignity and commensurate with his responsible position. He ought to be able to take a more active line in matters academic, and interest himself less in the petty details of office administration and other matters of that kind. His principal functions should be, as the Act lays it down, to see that the laws as such are actually carried out by every institution working under the University, the constituent as well as the affiliated colleges, and institutions subsidiary thereto. That cannot be done by a man who does not devote the whole of his time to it, nor could it be done by a man whose

acquaintance with academic work does not extend to the full range of the academic activities of the University both on the educational and on the administrative side. The Syndicate should be a body which ought to be in full sympathy with the aims of the Act, which ought to have adequate grasp of educational ideals and their administrative means, not the one separated from the other. They must be composed of members eminent in education and able to look into the details of administration as they come up with an educational eye, such as the existing electioneering system or even the composition of the bodies does not guarantee. As the Vice-Chancellor of another University put it: "It is the most shameless canvasser that gets the highest vote and everything has been reduced to canvassing as a fine art." This applies not to this or that, but one might easily say that this is the case in regard to all the recent elections of University bodies whatever their character. This state of things indicates unmistakably the utter poverty of academic opinion, or its being hardly able to assert itself in favour of the best interests of academic well-being, if such opinion existed. It is more therefore for the abolition of the full-time Vice-Chancellorship must be characterised as vicious, seeing that a real Vice-Chancellor has not had a chance. The character of the elected members of the Syndicate would improve only if the bodies had the electing of these members were counted on to have a better opinion of themselves and their functions in an educational institution like a University. The Syndicate is a body now very much different from the previous Syndicates composed of representatives from three separate bodies existing at the University, with a nomi-

nated element in addition to the *ex-officio*. The recent elections have brought into it a pretty large number of those who are quite new to University administration, not acquainted with the tradition that had been created by years of work. The Syndicate is a body whose character cannot be exactly defined in terms, nor is it possible to define its powers exactly. In some features it is of the nature of a Cabinet proceeding to work by understandings and conventions. In certain matters it has distinct powers which are defined. It requires a great amount of good feeling among the members and between the members and the Vice-Chancellor for smooth working. With a constitution such as the Act of 1923 has provided, the Syndicate has to work as one body among a number of bodies with distinct powers of their own. From what one is able to see, the present Syndicate has no clear notions as to its changed character from the Syndicates under the old Act which were purely executive committees of the Senate doing all that the Senate could do, so long as they could gain the ratification of the Senate for their acts. That is not the case with the present Syndicate; they must confine their activities to functions specially allotted to them under the Act which has not defined them clearly enough in many particulars. While they should carry on the work of the University as the chief executive body, they must on the one hand recognise that the Vice-Chancellor under the new Act is a functionary with certain powers of his own. They have to answer different bodies like the Senate, the Academic Council and the Council of Affiliated Colleges, for each one of which their responsibility is of a somewhat different character. The Amendment of the Act so far as the

work of the Syndicate is concerned must be along the lines of clearing their position with respect to (1) the Vice-Chancellor, (2) the Senate, (3) the Academic Council, and (4) the Council of Affiliated Colleges. It is in respect of the relation between this Syndicate and the present-day Senate that clash of power might sometimes come and particularly on the sore question of, say, appointments. The position will have to be cleared. The one occasion in which the matter was before the Senate, the resolution adopted by the Senate was the wrong way round. While the creation of posts must be the function of the Senate, appointments of persons must as clearly be the function of the Syndicate, the Senate as well as the Academic Council having the power to challenge in the last resort. The line that the Senate took was the other way round. Something may be done to clear the position in this particular.

From what has been said above, it would be clear that it is a retrograde step to abolish the full-time Vice-Chancellorship and make the position part-time and honorary; and that the relation between the respective spheres of duty of the Vice-Chancellor and the Syndicate should be more carefully understood and defined, perhaps not exactly by laws but by the growth of a convention. The Vice-Chancellor ought to exercise his discretionary power carefully and according to the best academic traditions. The Syndicate ought to see that they do not interfere with that discretion in a petty-fogging spirit, but help the Vice-Chancellor to exercise it in the best interests of the academic well-being of the University with the greatest amount of latitude. Section XII, Sub-Section 2 of the Act lays it down that "it shall be the duty of the Vice-Chancellor to ensure that the

provisions of this Act, the statutes, ordinance and regulations are faithfully observed and carried out, and he may exercise all powers necessary for this purpose," whereas Section XIX, Sub-Section (c) gives the power to the Syndicate to "regulate and determine all matters concerning the University in accordance with this Act, the statutes and the ordinances." The room, therefore, for clash of power between the two is not altogether an imaginary one, and provided the Vice-Chancellor and every member of the Syndicate realises that at least under this new Act it is the Vice-Chancellor's business to see the laws in operation, the function of the Syndicate is the negative one of seeing that the Vice-Chancellor is not in error in regard both to the letter and to the spirit of the laws. Once this is clearly understood on both sides, there is not likely to be much room for clash of power, and there is no reason why there should be much fear of differences of opinion even, except very occasionally. The Vice-Chancellor's will have to be the initiative so long as he and the Syndicate have to work with different bodies at the University, and not a single Senate. The Syndicate's advice must be readily available to him on all matters in which it may be sought. The proceedings of the various bodies would then acquire a more definite and business-like character, and work would go on more smoothly and expeditiously by avoiding the very unnecessary and often superfluous amount of back and fro movement of business from body to body. So much being carefully understood of the distribution of executive and administrative power between the executive body of the Syndicate and the chief executive office of the Vice-Chancellor, the actual carrying on of the administration would become easier.

The new Act provides for a number of statutory bodies and committees with definite functions of their own. The function of the Syndicate and of the Vice-Chancellor in regard to these bodies is primarily to see that each body does transact its department of business with understanding and with the utmost smoothness. This can be done only where the Vice-Chancellor could study all matters coming before these bodies and present them before these in a form that large bodies like the Councils and the Senate should act upon with clear notions of what they are committing themselves to. In this he should have the advice of the Syndicate in the fullest measure as well as their confidence whether the body concerned be the larger bodies or Statutory Committees of these bodies. The first body is, of course, the Senate, the supreme authority of the University exercising control over the financial and purely administrative functions of the Syndicate and the Vice-Chancellor directly, and only supervisory or revisory control over the work of the really academic bodies, the Academic Council and the Council of Affiliated Colleges. It has already been pointed out that the Senate contemplated under the new Act is more of the character of a popular court with a membership coming to close on two hundred, and composed of all classes of people not necessarily much interested in matters educational. The question, therefore, is primarily what its general functions ought to be and whether we want such a body for the exercise of those functions. A body of two hundred may not be impossible to work with in institutions where there is a general understanding of parliamentary procedure, and there is an active desire not to intrude other considerations in the academic administration of the University, or needlessly

interfere in spheres of duty delegated to other bodies. Understanding its functions in this manner, the actual number of two hundred need not be objected to. But it need not meet twice a year normally; an annual meeting ought to do for a body like this, with, of course, the usual provisions for special and extra meetings when necessary. In regard to the personnel the Act provides for a number of unnecessary *ex-officio* members, who hardly take any interest in the administration of the University. The proper thing ought to be that where there are individual holders of offices other than that of the Director of Public Instruction actively interested in matters educational, they must have a way of being brought into that body. The proper course would seem to be for the Chancellor to exercise his discretion to nominate these. The first point that seems to arise is whether there should be a Pro-Chancellor and whether a political head of the administration like the elected Minister should occupy the rather ornamental position of the Pro-Chancellor. There may be a Pro-Chancellor, but it need not be the Minister in charge of education. It would be much better that he is not a member of the administration at all. The *ex-officio* members from five to nine may go, the Chancellor nominating any or all of these according as the individual occupant of each place for the time being takes active interest in education or no. In regard to clause 2, Life Members, the second part, donors of twenty-five thousand rupees, may go. What is attempted to be achieved by that could easily be brought in under the first part of that section. In regard to the other members, the raising of the number to be elected by Registered Graduates to forty may be conceded, but as the elections go, one may doubt whether this is the best means of bringing in

the really worthy people from the point of view of education into the Senate. It is doubtful if the Legislative Council should elect as many as a dozen members. All the good that they can do could be equally achieved by about half the number, provided the Legislative Council takes care to elect only such of their members as could be counted upon to do their work to the greatest advantage of the public. The representatives of the Headmasters of Secondary Schools may be raised from three to five. Members from District Boards may be useful, but whether the District Boards elect or the Municipalities, they ought to take care to elect men with understanding of University education, whether from among themselves or outside of their respective bodies. The Corporation of Madras, the Chambers of Commerce, and the Landholders' Associations may or may not have their representatives. There can be no harm either way. Clauses 9 and 10 regarding Associations making donations is a mere useless addition to the Act. The number to be nominated by the Chancellor may be raised from thirty to forty on the understanding that this power is exercised by the Chancellor on the distinct basis of academic advantage. He must nominate to secure representation of unrepresented interests, mainly educational, not communities. He may bring in persons worthy of a place on the Senate, whether they represent educational interests or no. There may be representatives of the Vernacular languages of the Presidency and the representatives must be chosen, whether it be by nomination or election, for interest and work in the languages concerned. In regard to its functions, theirs must be the simple general one of laying down the lines without getting into the details

of making appointments. They may institute Professorships, Readerships, etc., and not appoint persons to such posts. In regard to the personnel in these matters, theirs must be the right merely to challenge in cases of grave misuse of power. Judging of qualifications and making suitable appointments must be vested in a really smaller body of people who have a far more lively understanding of the educational interests involved. It is open to doubt whether Syndicates have always been exercising their judgment properly in all cases, the power of challenge is merely to keep them up to a proper use of it. The same applies in respect of Fellowships, etc. The Senate ought to have the power to institute, not to award. The award must be made by the Syndicate on the recommendation of proper authorities. If these modifications should be carried out, it may not perhaps reduce the number of members of the Senate, but that is hardly necessary, provided the functions of the Senate are more clearly laid down, and the Senate itself would act generally in a way not to administer directly but to control the administration by bodies deputed therefor. That ought to be the real position of the Senate.

The Academic Council. The Act contemplates this body as the highest academic authority of the University, and gives to it the entire control and regulation of teaching and examination and all that contributes thereto. As such, therefore, this body must be regarded as of great importance as the Senate itself; only its functions lie in another department. Being educationally the supreme body of the University, it ought really to contain all those that count in higher educational work. The provision for Principals of Colleges, general and pro-

fessional, being *ex-officio* members is all right so far. But the provision ought to be extended to including the heads of departments of studies in colleges teaching up to the Honours, as their position in an academic body is of about as great importance as that of the Principals themselves. If this should be provided for, the provision now existing for members of the teaching staff being recognised as University Readers, and, becoming thereby members of the Academic Council, is a power that ought to be used only for the purpose of recognising work done by individual teachers. If their work is of such a character as to deserve academic recognition, then and then only should honorary University Readerships be conferred upon them. The number ought to be limited to a comparatively small number, so that it may be felt as a real distinction when conferred upon individuals. If this provision is made for including heads of departments in Honours Colleges among *ex-officio* members, the question would arise whether three members of the teaching staff other than these should be elected. Three members would be quite all right in a college teaching for Honours in half a dozen branches. It would certainly be too many in a college just teaching one branch. Some representation of the other members of the teaching staff is, however, necessary, and this may be secured by election by the members of the staff as provided for. Perhaps it is better to make the number change in proportion to the number of Faculties or subjects that exist in a college, and perhaps in the present circumstances, one for each Faculty in a particular college may perhaps meet the need. This body is composed of representatives of the institutions under the teaching University as well

as of those of the affiliated institutions so that this body is intended apparently as *the body* with complete charge of the academic work of the University both in its teaching and its affiliating aspects. As such it ought to meet the needs of both. It may be objected that it is dominated too much by the teaching University element. This objection may not perhaps be altogether invalid, and if such an inequality does exist, it may be worth while modifying Clause 4 of Section XXIII (1) under class (ii) giving them two members for each of the first-grade colleges instead of one. That would perhaps bring the number up to something like eleven. If that is done, the Council of Affiliated Colleges would become a mere superfluity. As it is, the work that it does now is comparatively little because academically the better body is the Academic Council. Administratively there is comparatively little to do, except to advise the Syndicate in respect of affiliations. In matters academical, the Council of Affiliated Colleges as constituted at present has to express opinions in matters relating to courses, etc., which the larger body certainly is really more competent to deal with. The one really useful purpose for which this Council exists could equally well be done by a Committee of the Academic Council. The Council of Affiliated Colleges may, therefore, be abolished and the Academic Council provided with two Statutory Committees as it were: (1) the Standing Committee whose function it is to advise the Syndicate on all matters academic, subject, of course, to the ratification or approval of the Academic Council; prepare business for the Academic Council generally and otherwise act exactly as a full Committee of the Academic Council. Its constitution may be exactly the same as

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the constitution of the present Standing Committee which is of a comparatively informal character. The defect of the present arrangement is that the Standing Committee ~~may not~~ act as a body authorised by the Academic Council to do things. What they do, the Academic Council may approve in its wisdom or may not. But a recognised Committee of the Academic Council would stand upon a different footing and may be entrusted with power to act on occasions of emergency. The advantage of a Committee like that would be that even the Academic Council might meet only once a year normally, and all the dislocation that two annual meetings may generally mean would be avoided; there would be a saving of unnecessary expenditure to the University, and really as good work can be done by this device as by bringing a vast body like the Academic Council awkwardly in the middle of a term to Madras. There may be a corresponding Executive Committee for that of the Affiliated Colleges. This Committee may be a committee of the Academic Council elected exclusively from the members of the affiliated colleges in the Council, but by the whole body of the Council itself. What the Council of Affiliated Colleges now does in the matter of advice as to affiliation, etc., may be done by this Committee, and this Committee can be brought down to Madras to meet two or three times, or oftener, if need be, in the year with much less expenditure, and can perhaps do the work much more efficiently.

In regard to the electorates, the first consideration that ought to weigh with them should be the academic interests of the University more than anything else in the exercise of their functions. Any other consideration should be held foreign to the

position. It is academic utility and fitness alone that ought to be the test and any device to bring about representation of communities is woefully out of place in a body like this. The first modification called for therefore would be abolition of election by single transferable votes, which happily obtains only in respect of the Senate. This leads to very unhealthy canvassing and no really academically worthy man has much of a chance of a successful election. Active canvassing, unknown in regard to the elections to the Syndicate till within very recent times, is the order of the day in respect of all elections. Where academic bodies like the Universities are concerned, this is hardly desirable and leads unnecessarily to questionable ways on the part of the elected and on the part of the electors. This unhealthy state of things ought not to exist. It would be a distinct improvement to abolish anything that would encourage this undesirable state of things.

Whatever modification of the Act is undertaken, it would be well if they keep to the ideal propounded in the Act of a teaching University for Madras with the outlying colleges affiliated to that University. It must be recognised frankly that the two should develop, each along its own lines unhampered by the other. Each has its own distinct function and could play its part usefully for the society as a whole and in a way to achieve educational distinction, each in its own particular line. A distinct step forward ought to be taken on the lines of co-operative teaching both on the inter-collegiate and on the side of co-operative teaching between the University and the colleges. There are difficulties in the way, but the difficulties are of a minor character. With a minimum of goodwill, the actual possibilities for good are

immense. The affiliated colleges can be made more efficient and easily become really useful educational institutions providing almost all that a teaching University could provide, perhaps in a somewhat more limited measure, with really an efficient system of education. Post-graduate and research work may be all exclusively confined to Madras or even extended to salient centres of the mofussil. The real question is one of means and the facilities that already exist in centres other than Madras. If Madras should go ahead to begin with, it is hardly necessary for other centres to become jealous or make a dead set against it. The experience of Madras would be useful to them, and each one of the centres, nay, each one of the institutions, can then form its own particular plans for development along

special lines. The question of a Tamil University may quicken life in the affiliated colleges if a University for the Tamil districts should come into existence. In the meanwhile, the University ought to be alive and active to give the Act an honest chance in the direction of developing Madras into a really academic centre of learning. We hope what is said above will make those whom it may concern to give the matter their very best consideration and see if the Act could not be given a more honest chance than has hitherto been done. The educational interest of the youth of the country seems to call for it, and there is nothing to be gained by losing time in a vital matter of national importance like higher education.

“FROM A RURAL SCHOOL-WINDOW.”

(With four illustrations.)

WITH A FOREWORD FROM
The Hon'ble Sir A. P. PATRO, Kt.,
Minister of Education, Madras.

BY

K. R. R. SASTRY, M.A., L.T.,

Fellow of the Royal Economic Society (London); sometime Deputy Inspector of Schools, Dharmapuri and Pattukkottai Ranges; Author of "South Indian Gilda."

Opinion.

Indian Educator, March 1926 — The book enters the world armed with a befitting preface from Sir Patro, the Minister for Education. Mr. Sastry's racy style coupled with his affectionate sympathy for the village life makes the book highly interesting. All the details of village life are keenly appreciated and if the book is potent enough to turn the educational authorities to greater interest in rural education, we are sure it can be said to have achieved its object. Mr. Sastry is surely a pioneer in this line of action and we hope he has successors to follow him.

SRINIVASA VARADACHARI & CO., 4, MOUNT ROAD, MADRAS.

SIR HUMPHREY DAVY.

By Mr. P. A. NARAYANA AIYAR, M.A., L.T.,
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THE life of Sir Humphrey Davy is interesting from many standpoints. It affords a striking example of what the Romans called a man of good fortune whose success, even in their view, was not however the result of accident, but of ingenuity and wisdom to devise plans and of skill and industry to bring them to a successful issue. Davy was fortunate in his discoveries and even more fortunate in living in an age sufficiently enlightened to appreciate his merits. His was an age when the doctrine of phlogiston had been completely dissipated by the new teachings of Lavoisier, and the discoveries of Galvani and Volta were becoming familiar throughout the scientific world. The study of the life and career of such an attractive personality and an universally-acknowledged genius which is to form the subject of this article cannot but be a source of pleasure and benefit to our youngsters.

Humphrey Davy was born on 17th Dec., 1778, in Market Jew St., Penzance, in Cornwall. His father, who was very proficient in the art of wood-carving, was occupied after his marriage in farming and died very early, leaving behind his young widow of 34 years with five children of whom Humphrey was the eldest. Unable to sustain her children with her small income, she worked in a millinery business for nearly four years till she came unexpectedly into possession of a small estate fetching nearly £ 300 a year. The condition of society in Cornwall was then associated commonly with drunkenness and immorality and the demand for education was very limited,

the lower classes being extremely ignorant and superstitious. Like other boys of his time, Davy was sent first to a Mr. Bushel and later on to the Grammar School under the Rev. Mr. Coryton, a man of irregular habits but extremely severe, pulling boys' ears even for very slight offences. Speaking of his experience at Mr. Coryton's, Davy wrote: "I consider it fortunate that I enjoyed much idleness at Mr. Coryton's school. I perhaps owe to this the little talents that I have and their peculiar application. What I am I have made myself."

At fourteen, he was removed to Dr. Cardew's School at Truro, where his expenses were defrayed by Mr. Tonkin, a kind friend of the family, and in a year or two, his school education was at an end. His sixteenth year was spent in fishing, shooting, aimless rambling and 'in the enjoyment of much idleness'. Just now his father died and in 1795, he was apprenticed to Mr. Borlase, a surgeon and apothecary, a man superior both in professional and general attainments. The demon of work seized on Davy who threw himself into the task of self-improvement with irresistible ardour. The plan of study was remarkably extensive and was conceived in the broadest spirit indicative of a mental activity far beyond the range to be expected of a boy so young. His note-books include studies on Theology, Geography, Logic, Physics, Mechanics, Rhetoric, Oratory, Mathematics, History and Chronology. Which of us has undertaken a course so extensive and so inclusive?

Amidst all this wide and discursive reading, the young boy had indulged in frequent outbursts in verse expressive of his own enjoyment and interest in scenes of Nature so abundant in his own county. He was a good

rhymester and his verses indicate his considerable gift of imagination. They include beautiful lines on 'Ashburham Palace', 'On the Fall of the Traane,' 'The Sons of Genius.'

Even as I look upon thy mighty flood
Absorbed in thought, it seems that I become
A part of thee and in thy thundering waves
My thoughts are lost, and pass to future time
Seeking the infinite and rolling on
Towards the sea eternal and unbounded
Of the all-powerful, omnipresent mind.

His poems entitle him to the epithet 'Poet and Philosopher,' which one of his biographers associates with his name and which he remained till the end of his life.

Davy is first and foremost a chemist and the study of chemistry seems to have been seriously attended to in 1798 with the help of Lavoisier's Chemistry and Nicholson's Dictionary of Chemistry. He fitted up a small laboratory furnished with the very simplest and most inexpensive apparatus and he performed practical work. In the short space of four months, he had made such extraordinary progress as to correspond with Dr. Baddoes, a medical man of Bristol, on the subject of heat and light. The doctor conceived so high an opinion of the papers that Davy was offered the position of Superintendent of the Pneumatic Institution, founded with the object of investigating the medicinal effects of the various gases discovered by chemists.

Davy's researches may be said to have commenced from this period. One of the first gases whose physiological effect was tried was nitrous oxide, otherwise known as laughing gas. Every one is now familiar with the effects of inhaling the gas as an anaesthetic. The pure

gas was obtained by heating ammonium nitrate and Davy himself inhaled the undiluted gas. The excitement and pleasurable sensations he experienced led him to speak out the following verse:—

Not in the ideal dreams of wild desire
Have I beheld a rapture-wakening form
My bosom burns with no unballowed fire,
Yet is my cheek with rosy blushes warm
Yet are my eyes with sparkling lustre filled
Yet is my mouth replete with murmuring sound
Yet are my limbs with inward transports filled
And clad with new-born mightiness around.

In 1801, Davy was recommended for the Assistant Lectureship at the Royal Institution—an appointment 'as honourable as any scientific appointment in the kingdom with an income of at least £ 500 a year' and one to prepare the way for being in a short time sole Professor of Chemistry—an appointment which he would not accept except upon the sacred terms of independence. As a lecturer at the Institution at the age of 23, I can but quote from one of the audience:

"The sensation created by his first course of lectures at the Institution on the history and phenomena of 'galvanism—a very new and almost unexplored region—and the enthusiastic admiration which they obtained, is at this period hardly to be imagined.' Men of the first rank and talent, the literary and the scientific, the practical and the theoretical—blue stockings and women of fashion, the old and the young, all crowded, eagerly crowded the lecture-room. His youth, his simplicity, his natural eloquence, his chemical knowledge, his happy illustrations, and well-conducted experiments, excited universal

attention and unbounded applause." Compliments, invitations and presents were showered on him; his society was courted and all appeared proud of his acquaintance.

The Royal Institution was the place of all his future researches, which included a variety of subjects in vegetable physiology, agricultural, industrial and electro-chemistry. But particular mention must be made of three of his most remarkable pieces of work, *viz.*, the decomposition of the alkalis, the elementary nature of chlorine, and the invention of the safety lamp.

With the publication of some experiments made with the galvanic apparatus by Signor Volta and the decomposition of water by Nicholson and Carlisle, Davy had begun his experiments with the galvanic battery even at the Pneumatic Institution and on reaching London, he continued them and advanced the hypothesis "that chemical and electrical attractions were produced by the same cause, acting in one case on particles, in the other on masses." Pursuing his experiments, Davy was led to the discovery of the metallic elements, potassium and sodium, from the electrolytic decomposition of caustic alkali in the fused state, thus proving that the two caustic alkalis, potash and soda, were no longer to be regarded as the simple or elementary substance, they had hitherto been considered. His researches on the alkalis were communicated later to the Royal Society in four successive Bakerian Lectures.

In December 1808, the celebrated paper on the elementary nature of chlorine was read. The gas was discovered by Scheele who called it dephlogisticated marine acid air. In accordance with Lavoisier's system of nomenclature it was later called oxy-muriatic acid, as it was then regarded as the oxygen

compound of muriatic acid (Hydrochloric acid). The question was whether this gas contained oxygen, as implied by the name. To determine this point, Davy heated in the gas a variety of oxygen absorbents such as potassium, carbon, etc., but could not obtain any oxide. Davy concluded therefrom that the gas must be elementary or at any rate undecomposable and gave the name chlorine, in reference to its colour. Davy also prepared later many derivatives of chlorine of which the oxides stand more prominently.

In 1811, Davy married Mrs. Apruce. She was a prominent figure in society and according to Sir Walter Scott, of whom she was a distant relation, she had been "a lioness of the first magnitude in Edinburgh." It is a question whether she was in all respects fitted to be the wife of such a man, and it is significant that in his later years and when in bad health, he wandered about alone on the Continent, dependent on his own resources, no friends to converse with, no one to rely on for aid; destitute of all the amusements of society and without any of the comforts of home.

Soon after his marriage, he wrote his 'Elements of Chemistry,' and dedicated it to his wife. Two years after, he made an extensive tour in the Continent accompanied by his wife and his assistant Michael Faraday. He came across a few of the most distinguished men of science including Moroean, Vanquelin, both associates of Lavoisier, Gay-Lussac, Berthollet, Volta—to mention only a few. Davy himself wrote about his travels: "We have had a very agreeable and instructive journey, and however interesting it may be to see other countries, England is the only country to live in." With this idea, he returned home

1815 and now he entered on the train of researches on the structure and conditions of flame which resulted in the invention of the 'Safety Lamp' for miners—an invention whose importance and application in mining was recognised by the conferment of a baronetcy on him, by the present of a silver gilt vase from the Russian Emperor, and the gift of a service plate valued £ 1,200 by the chief colliery owners.

By this time, his researches may be said to have ended and though he was appointed President of the Royal Society to succeed Sir Joseph Banks, which post he filled seven years in succession with honour, taking the chair in court-dress, sitting covered with the mace presented by the Royal founder before him, the day of great discovery was for him past.

In the summer of 1826, his health failing, he made a voyage to the North Sea and travelled round Norway, Sweden, Denmark, carrying everywhere his gun and rod and making good sport on the lakes and rivers. He did not however recover from the paralytic attack, though he toured once again in the Continent. Now he composed, in part, his last work 'The Last Days of a Philosopher.' In November, he was in Rome where his health suddenly failed and added to it, he struck his elbow against the arm of the sofa. He was got to bed as quickly as possible but the end came unexpectedly at 3 o'clock on the morning of May 29th, 1829, at the early age of fifty-one.

Davy was a poet and a practical philosopher. His precocious genius was combined with a poetic fervour which alone would have ranked him among the remembered poets of the day. But his reputation is more intimately associated with his scientific discoveries which,

growing greener by time, will descend to the latest posterity. He scrupulously avoided all undue theorising and made his greatest successes in the realm of facts. It was his firm conviction that 'one good experiment is of more value than the ingenuity of a brain like Newton's and where he attempted theorising, his results were not happy.

Davy was a gentleman from head to foot, frank and candid, amiable and conciliatory, simple in habits and extremely social by nature. His evenings were almost spent in evening parties, and to the frequenters of these parties, 'he must have appeared a votary of fashion rather than of science.' Davy's life may well be summed up in his own words: 'I have neither riches, nor power, nor birth to recommend me; yet if I live, I trust I shall not be of less service to mankind than if I had been born with these advantages. May every year make me better, more useful, less selfish, and more devoted to the cause of humanity and science!'

KALIDASA

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THE PSYCHOLOGY OF EDUCATION.*

By Professor INDRA DEVA TIWARY, M.A.,
Benares Hindu University.

I. PRELIMINARY.

THE late Doctor James Ward was the father of modern British Psychology. His *Psychological Principles* which is substantially an expansion of the famous article in the *Encyclopædia Britannica* has been rightly regarded as indispensable to the student of the science. He has fortunately left us another book on the subject which is of great value and importance.

A few weeks before his death, he handed over to his friend, Doctor Dawes Hicks, Professor of Philosophy in the University College, London, the manuscript of his lectures on the theory and practice of Education, inviting him to offer his opinion on them. But before the opinion could be communicated, he passed away. Doctor Hicks has now edited these lectures under the caption "Psychology applied to Education."

The Editor tells us in the preface that admirable as in many respects James's *Talks to Teachers* is, Doctor Ward's treatment is far more systematic and gives a more coherent and connected view of the growth and development of the mental life. The lectures are written in the author's happiest and brightest manner and are enriched with a wealth of illustrations which only a mind possessed as his was of an immense store of knowledge could have summoned to the task. They are replete with practical suggestions that can hardly fail to be helpful to teachers. They

* *Psychology applied to Education*, by the late James Ward, edited by G. Dawes Hicks, Cambridge University Press, 1926.

exhibit in a striking way how the leading ideas worked out in the *Encyclopædia* article and elaborated in *Psychological Principles* illuminate educational methods.

Most of these lectures were delivered long ago and so the references cited are from authors who do not belong to the present generation. This does not however militate against the value of the lectures. The principles propounded in them are in accord with the best that has been said upon the theory of education in recent years.

II. THE POSSIBILITY AND VALUE OF A THEORY OF EDUCATION.

Doctor Ward begins his treatise by trying to show in a general way that a science of education is possible and it must be based upon Psychology, Ethics and other cognate sciences. "An education works or rather ought to work upon a growing mind with a definite purpose of attaining an end in view." The aim of education is determined to a large extent by Ethics, the science of the good. So it has been conceived in various ways at different times in accordance with the conceptions of the good accepted by a particular society. After the aim is more or less settled, the next problem is to decide upon the means. Apart from appliances and methods of procedure, which may be chosen at will, we have to deal here with the human *mind* that has to be trained. What the laws of the mind are, we learn from Psychology. Thus the science of education depends upon and follows from the existence of what Doctor Ward calls "the moral sciences, among which psychology is the most fundamental." It gets its aim from Ethics and its best method of achieving the aim from Psychology.

But there is often a distrust of a theory of education based upon Psychology. Sever

teachers have an innate hatred of all theories including the theory of education. Instead of being helped by it, they are only mystified. To them the enthusiast who seeks to base education upon psychology is like Swift's tailor who took his customer's measure by means of astronomical instruments! There is no use measuring a man in such a philosophical fashion when after all a tape must be used to measure the cloth. So what is the good of a knowledge of humanity in the abstract when we have to handle a room full of restless urchins?

Doctor Ward's reply is that the school teacher's experience will be valuable to him only "when it is enlightened and interpreted by scientific theory.....Nobody supposes that a man is competent to practise medicine knowing nothing but anatomy, physiology and pathology; but nobody will maintain that he is competent, whatever may be his experience, if ignorant of the sciences. Similarly, no one supposes that a knowledge of psychology, logic, and ethics, or rather the science of education based on these, will suffice to make a man a school teacher; but the day may come when he who proposes to be an educator without this knowledge will be considered little better than a charlatan and an empiric..... The study of theory will not infallibly make any simpleton into a first rate teacher, any more than gymnastics will convert a dwarf into a life guardsman. But out of a hundred teachers, fifty of whom have and fifty of whom have not made this preliminary study, we may affirm of the former three things (i) that they may be on the whole the best teachers, (ii) that they will see most clearly wherein and why the current traditions of education are good or bad, (iii) that they

will be most likely to improve existing theory and so to advance future practice."

What is education? The founders of the Prussian national system have defined it as "the harmonious and equable evolution of the human powers. Mill considers "the realization of human perfection" to be the aim of education. These phrases are extremely comprehensive and to some extent vague. But we know what is not perfection, what is not harmonious development. All agree that a mere athlete is not a perfect man; that a prodigy of learning, male or female, without physical endurance or any sort of bodily dexterity is not perfect either. Nor do people esteem mere knowledge without judgment and insight, mere erudition without brains. Doctor Ward considers *moral excellence* to be the first and paramount aim of education. "To the power of self-rule which alone will secure internal freedom and peace within a man there must be added a living spirit of right and benevolence and an earnest and hearty activity for some end worthy of human energies and of a human life... In subordination to the attainment of such moral excellence and as a means to it, the educator will seek also to exercise the bodily and mental powers of the young so as to ensure a *maximum permanent efficiency*."

He thus lays emphasis upon *moral excellence and permanent efficiency*. Parents and school-teachers often display fondness for precocious talent and the exigencies of examinations. The result is that permanent efficiency is sacrificed to present effect. "How to make your pupil shine now is one problem, how to make him think and act for good purpose when a man is another and very different problem and the psychological conditions

of success in the two cases are very different too."

All one-sided inharmonious mental developments are undesirable. To be, as it were, all reasoning, all imagination, or all observation, is to be mentally halt and maimed. Such one-sidedness defeats its own end quite as certainly in the mental organism as in the physical.

To sum up: If we take education to mean the educating or drawing out of faculties and capacities, there is an education of some sort in the mere fact of life. In this way Nature began the education of our race before we ourselves made any conscious efforts to do so. But if we restrict ourselves to the conscious efforts of adults to determine the after-life of the young, education is "the harmonious and equable evolution of the human powers by a method based upon the nature of the mind, so that every power of the soul is unfolded, every crude principle of life stirred up and nourished, all one-sided culture avoided and the impulses on which the strength and worth of man rest carefully attended to." Moral vigour, moral worth, says Doctor Ward, are the primary things; and next comes such exercise and culture of physical and mental capacities as shall render these permanently efficient. The theory of education then is a systematic exposition of the methods by which this end is to be attained—an exposition mainly based on the sciences of physiology, psychology, and ethics.

III. EDUCATION AND INSTRUCTION.

It is essential to the educating process that the pupil should himself exert whatever faculty is being trained. So there is a difference between mere instruction and education. Whereas in education the pupil is pre-eminent-

ly active, under instruction his attitude is relatively passive and receptive.

Education can only be secured by training and yet training is lost sight of in the eagerness to impart information. We cannot of course train without instructing but training is not mere instruction. To quote Doctor Ward: "Training is directed growth. To the pupil belongs the activity on which the growth depends, to the teacher the ideal or end by which the growth is directed and the methods of bringing this direction to bear on the pupil's activity. It is in the nature of training trees and shrubs: the gardener cannot train his tree while yet a seed; he must wait till its branches begin to shoot; nor can he train the seedling in winter when it has temporarily ceased to grow. *Education is possible when growth begins and so long as there is growth.*"

Now what is the main condition of effectively directing growth? It is *interest*, "direct and spontaneous interest," not that wasteful and reflected interest which is based on the pressure of external compulsion. *One volunteer is worth ten pressed men*. What the scholar does because he likes to do is worth ten times as much as anything which he is forced to do when he dislikes it. And no wonder, since in the one case, all his energies are engaged in the most efficient way and have besides their efficiency still further increased by the additional vitality and zest due to pleasurable occupation. It is no doubt difficult to make all work as pleasant as play for the child but the greater part of it can be made interesting. "If the value of interest," says Doctor Ward, "were sufficiently realized more effort would be made to surmount the difficulty."

After discussing fully and lucidly the nature and growth of the mind and analysing in

detail the processes of perception, retentiveness, reproduction and imagination, Doctor Ward discusses the nature of intellectual interest and the importance of *wonder* "as the parent of knowledge," and lays much emphasis upon the necessity of systematic and precise thinking. In regard to the two methods of exposition, the heuristic, so one-sidedly advocated by Pestalozzi and the dogmatic method, Doctor Ward is of opinion that both should be used in due proportion. Over and above all formal training, a profound love for truth must be quickened and kept vigorous in the student's mind. This is the crown and glory of an intellectual education and to produce it is the sublimest office the teacher has to discharge. Here, as in many other things, his example is more effective than his precepts.

IV. EDUCATION FOR CITIZENSHIP.

The idea of education as a training in citizenship has received a great stimulus from the war. Educational reformers are not talking so much of increased intelligence and energy for production as they are talking of increase of patriotism. It is felt that the future of the country depends on the willingness of the coming generation to undertake burdens and practise modes of self-sacrifice unknown to their fathers, and that for the creation of the spirit of loyalty and devotion which will enable it to meet them, we must depend on the schools and colleges. But there is essential danger in entrusting to the State such an interest as education. The State may easily be tempted to direct education to some end of its own—the maintenance of the existing social order or devotion to its own special and exclusive good. It may cast the young minds in its charge into a narrow and uncritical patriotism and rob them of their proper concern for the general welfare of humanity.

Doctor Ward tells us that in England there is an acute difference of opinion with regard to education in the individual's interest and

the German ideal, "Education to the State, and for the State, as well as by the State." It may be said that the true interests of the Man and the State cannot conflict. Of the Ideal State we may allow this, but the Ideal State is a far-off event. At present there is anything but harmony. So his opinion is "If you aim at inculcating principles of conduct that now prevail, you will certainly improve upon the German model of a citizen—which by the way owes its shape largely to the use of the heels—but you will fall sadly short of educating to the utmost the highest possibilities of the rising race." The danger of the State-ridden education is patent. Nothing could be more subtly destructive of the integrity of individual and social life than the attempt to educate primarily and solely in the interests either of a nation or a class. Education will be healthy only if those who are concerned with it understand and strive for its proper end. That end is the formation of character or to use the modern phraseology, the *enrichment of personality*. So long as men are trained to know the truth and the good, everything which ought to count on the devotion of citizens will win the service it needs. A young mind which is alight with a genuine appreciation of the world and of man will not fail to find the place at which it can most fruitfully assume the duty of maintaining the social fabric. Hence the true wisdom of the State lies in providing the circumstances which education requires and to let it give most freely all that it has to give. Here as everywhere in social practice, the sovereign rule is that superb test of faith. "Seek ye first the kingdom of God and His righteousness, and all these things shall be added unto you." To quote Doctor Ward: "The value of a single man or woman of open mind, independent judgment and moral courage, who requires to be convinced and refuses to be cajoled, is only concerned to be right, and not afraid to be singular, deferring to reason but not to rank, true to his or her own self, and therefore, not false to any man—the value of such a man or a woman, I say, is priceless; a nation of such would leaven and regenerate the world. That is the true national education at which England should aim."

"MODERN ESSAYS." I. WORLD-UNITY.

By Mr. P. R. KRISHNASWAMI, M.A.

Lecturer, Government College, Kumbakonam.

AN excellent collection of essays written mostly by living writers has been prescribed for the past two years for study by the candidates for the B.A. degree examination of the Madras University. As Coleridge pointed out, contemporary literature has the rare value of coming home to our minds in a way in which past literature cannot. Our young men, these two years, have had more thought-provoking literature to read than at any time before. Hope is to be cherished that they will derive the best advantage from it.

Nothing is perhaps so inspiring in modern literature as the vision of a world unity in the future. Thanks to scientific progress in the means of human locomotion, the world is not of such distances and of such vast untraversed regions as it once was. It is a comparatively small and limited place in which every part is vitally and intimately connected with every other one. Yet this great unit of the human race is full of internecine division, hatred, and jealousy, that render it weak, miserable and unhappy on the whole. Almost for the first time now, humanity has a vision, which is not a dream, of re-organising the entire world into a happy family.

The League of Nations has naturally been regarded as a means of great potency to bring about this end. Essentially an international political organisation, the League may yet strive in behalf of the highest ideals of the human race. It may lie within the power of the League to prevent needless war, if not war altogether. The misunderstanding among the nations of the world is sought to be pre-

vented by improving the educative agencies in the world. Galsworthy writes: "If we do not want another seven million violent deaths, another eight million maimed and halt and blind, and if we do not want anarchy, our tongues must be sober, and we must tell the truth."

War previously had been regarded as an evil necessity but a necessity still. The experience of war was thought to have a salutary effect on the strength and character of the nation. But it can no more be excused on such a consideration. The anxiety to prevent war now is because of the unprecedented character of the last war. "This war flamed out with an unexpected rapidity until all the world was involved; and it developed a horror, a monstrosity of destructiveness, and, above all, an inconclusiveness quite unlike any preceding war" (Wells). If we do not avoid future war, Wells tells us that the human race is bound to decay. People believe that war in the past was justified because it followed a chivalric ideal, but later changes have destroyed quite the justification for war. Dr. C. A. Alington writes: "It's illogical, I know, and we gave the whole case away when we took to guns; but somehow a man and a horse and a sword seem the right things to make a battle out of; and when I think of an old scientific man who couldn't march a mile making all these devilish inventions, I confess I wish you'd kept out of it."

Dean Inge (rhymes with the participle ending -ing) has carefully discussed the arguments adduced in favour of war and has inferred its totally calamitous nature. War destroys the healthiest of the community, leaving the weaker part to become the fathers of the next generation. War cannot be justified now as the means of keeping down the

population of the world, because birth-rate has gradually gone down.

The movement for world-unity has a two-fold aspect. War has to be prevented because it is disastrous, and if war is prevented, we expect to derive a good deal of positive good. Wells has elaborated his ideas on this subject with great ability in his book on "The Salvaging of Society." There are long chapters in the book, which draw up an account of a world religion, of a world Bible and of a world scheme of education. On the last topic it may be useful to remember a book published some years ago entitled "Janus and Venus" in which the scheme of a common university for the world was set forth.

The world has not yet sufficiently grown alive to the kind of happiness that can be attained by achieving a real world-unity in which all the countries live in peace with one another and national barriers do not hamper free movement between one country and another. The resources available to each nation when it is saved the expense of armaments cannot be too highly estimated. The cost of a submarine will found a school, better equipped than ever before in the history of the world. When customs are abolished, the manufactured articles of the world can be bought by the remotest dwellers at the lowest possible prices. "We could live in a universal palace and make the whole globe our garden and play-ground." (Wells.)

All the great writers agree in looking to education as the only solvent for all the existing evils. Galsworthy sees the need for the three agencies of the Press, the Arts and the Schools to be placed on a better footing than before to discharge their func-

tions in the best interests of the world. In his essay on Reality, Belloc serves only to point out that in the acquisition of his ideas, every citizen has to be on guard against secondary impressions of things which are apt to misguide him. The chief work in our scheme of education for the future, according to Wells, will be to undo the narrowness of outlook engendered by the national ideal in the past. As Alington puts it, in other words, if the tiger and the ape in man have been destroyed, the donkey remains to be so extinguished.

The most interesting problem connected with the idea of a world-unity is the preventing of wars by the arbitration of the League of Nations. The League is now credited to have the power in laying down the law in the matter of any nation resorting to the use of aeroplanes and poisonous gases in wars. How far this authority is likely to be successfully exercised is a matter of the future. Wells is not inclined to think much of the League of Nations as a power for the world's good. It is to him like a boys' literary society where there is much talking without the guarantee of executive power behind it. If the League is to possess compelling authority, Wells believes that it should have its own army, larger than that of any nation. But that is obviously an unworkable proposition. The world-unity or world-peace cannot be brought about by the use or strength of force. It is a contradiction in terms. Wells sees that world-unity and national existence are incompatible with each other. Humanity should be cured of nationalism before it can attain world-unity. It is a splendid vision that Wells sees, when according to him all the conveniences of modern times may be utilised for the propagation of a splendid faith in a world-unity, leading to the building up of a world-state which will be a happy home for man. Our greatest seers to-day are those who, like Wells and Bernard Shaw, pin their faith in a creative evolution, which helps us to brush aside all the depressing forces of the world and seek to put a divine light and reason into the working minds of men.

THE LINGUISTIC INFLUENCE OF DRAVIDIAN ON INDO-ARYAN.

By

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THE famous Latin poet Horace wrote: "Captive Greece, conquered by victorious Rome, conquered in her turn her conqueror by thrusting her culture on rustic Latium." We know to-day that something of this kind should have happened in India when the Aryans from the West swept over the land and conquered by force of arms its previous inhabitants who, so far as we know, were mainly the Dravidians and the Kolarians. Of course in India the process of the cultural conquest effected by the conquered race was neither so quick nor so strong as in Greece, nor were the Aryan conquerors so "barbarous" as Horace's lines make the early Romans out to be; but to-day researches have definitely disproved the time-honoured heresy of Aryan superiority and Dravidian inferiority. The belief that the superior Aryans, blonde-haired, fair-complexioned, blue-eyed and tall-limbed, simply imposed their culture upon the inferior dark-skinned, superstitious and uncultured Dravidian aborigines, has long been sedulously inculcated in our schools, and is still the cherished belief of many. This depreciatory tone in reference to Dravidian has no longer any justification, to say the least. We know to-day, thanks to the labours of researchers, that what we understand as modern Hindu culture is the composite result of the fusion of both the Aryan and the Dravidian elements, the latter of which is not only not negligible but sufficiently profound to have given a distinctly new tone to Indo-Aryan culture in India.

In a paper contributed to the "Modern Review" (1924), Prof. S. K. Chatterjee has dealt with the cultural aspect of Dravidian influence, while the linguistic aspect has been emphasised at some length in his recently-published work on the "Origins and the Development of the Bengali Language," which book, be it remarked by the way, is the first masterly contribution by an Indian to the science of Indian Linguistics. In the paper above adverted to, Prof. Chatterjee details the reasons for the myth of Dravidian inferiority: "Too much weight placed on scriptural evidence alone, on the sacred texts written in the Aryan's language, Sanskrit, could only produce this pro-Aryan bias. Nothing or next to nothing was as yet known about the ancient history of the world. Assyriology and Egyptology were just essaying their first steps haltingly. Evidence from Archæology was just beginning to be gathered in Egypt and the Ægean area, in Asia Minor and Mesopotamia, in Persia and in India. There was no other alternative but to accept what our only source of information for India—the literature of the Brahmins—had to say. Much of it as history remained obscure, but the main outlines were reconstructed in the above way: and these fitted in well both with the facts of cultural and political expansion known in history and with the universally-accepted Hindu notions about the origin of their culture, with the great Aryans of Northern India and with the Brahmins. And so the reconstruction was not questioned; and when the educated people acquired it as boys from their text-books, it became (in India, with some at least) a heresy to question the superiority of the Aryans in any walk of life."

There are other reasons also for this prejudice. The time-honoured racial distinctions

promulgated by orthodox Anthropology impliedly attributing a certain degree of intellectual capacity to each racial stock, also form a great obstacle to the perception of the truth. After all, the variations of the cephalic index upon which so much reliance is placed for drawing conclusions of racial superiority or inferiority, are never conclusive. "What constitutes a nation," says Dean Inge, "is the community of sentiments and ideals which results from a common history and education." Ignorance of this fact and an unduly great importance attached to the measurements of skull-heads as a criterion of the cultural development of a race, have contributed not a little to blinding us to real facts. But the disillusionment has come to-day from various sources. On the one hand, the great cultural excellence of the Dravidian languages of South India, dating from pre-Aryan times and entirely independent of the Aryan, and on the other, the discovery of the fact that the old Indo-Europeans were culturally inferior to other civilisations like the Egyptian, Assyrian and Ægean at the beginning of history (in the third millennium B.C.) have once for all exploded the heresy of Aryan superiority.

What was the nature of the cultural contribution made by Dravidian to the formation of the Hindu Ideal? Briefly put, the Dravidian elements in Hindu culture are the following:—

(1) The ritual of *Puja*, so characteristic a feature of evolved Hinduism, conspicuous by its absence in the Aryan rites of *Homa* and sacrifice.

(2) The conception of *Shiva*, *Vishnu* and the great mother as cosmic powers, "deities

of grace and mercy," as contrasted with the nature-gods of the Vedas.*

(3) The fervour of devotional piety characteristic of ancient Tamil poetry and of evolved Hinduism, as contrasted with North Indian *bhakti*.

(4) The doctrine of *transmigration* and *karma*, as contrasted with early Aryan or Indo-European conception of an Abode of the Dead.

The elements contributed by the Dravidian† have undoubtedly mollified and mellowed the more sombre civilisation of the Indo-Europeans; and if to-day Hindu culture stands for sweetness, peace and good-will, it should partly be due to this influence.

So much for the cultural side. The question of linguistic influence is not so simple. It is not proper to suppose that linguistic influence will work as strongly as cultural influence when two races come into contact with each other. Ideas and ideals percolate more freely than linguistic peculiarities. The change of mental outlook may arise in a people imperceptibly and unconsciously, but

* Prof. Chatterjee observes in page 41 of his recently published work: "A Dravidian God of the Mountains and Waters, a Red God," probably had his name translated into Aryan as *Rudra* and then identified with the Aryan god *Rudra* the roarer, and later on his Dravidian names (cf. Tamil *Rudra*, red and *Oruṭṭu*, copper) seem to have been adopted as *Siva* and *Āmbhu* (2) The Dravidians had probably a monkey-god whom they called the male monkey (*ṅṅṁṁṁ*) and his Dravidian name seems to have been adopted into the language of the Aryans and Aryanised as *Hanuman*. (3) The Aryan *Vishnu* seems to have been identified with a Dravidian sky-god (cf. Tamil *Ṇēṭṭu*, sky).

† The fact of the blending of the two cultures presupposes contact between the races. This contact itself cannot be denied. Where and how strong it was, is a matter of controversy. See *post*.

innovations in one's mother-tongue are inveterately fought against.

That the languages of the Dravidians and the Kolarians who were the pre-Aryan inhabitants of India should have exerted some kind of influence on the development of the Indo-Aryan tongue is more or less an admitted fact. What the nature or extent of this influence may have been, is a matter on which difference of opinion exists. The question whether the pre-Aryan Dravidians were distributed all over India or only concentrated in certain parts, is itself controversial, though it is more or less certain that amongst the pre-Aryans, it was the Dravidian element that preponderated, whatever its origin may have been, whether it was autochthonous, or it came from Australia or from the Finno-Ugrian regions of Caucasasia, or whether it was a blend of some or more of these different races.

Prof. Chatterjee following Grierson and others is inclined to the view that the Dravidians were distributed all over India in pre-Aryan days, in the West and in the East, in the North and in the South. Prof. Chatterjee supports this view with some new evidence too, so far as Bengal is concerned. In his recently published work he gives us certain facts which tend to prove beyond doubt the existence of Dravidian sway in Bengal in pre-Aryan times. He tells us that many of the endings of Bengali place-names like *viti* (cf. *ṁṁ*), *jōli* (cf. Telugu, *dsollu*), *kunda* (cf. Telugu *kuṇḍa*, *heap* or *hillock*), *cāvāti* (cf. Tamil *erup*) are undoubtedly Dravidian. Again he tells us that the modern Bengali town *Tamluk* or *Tamoluk*, the capital city in ancient times of the *Sukmas* of South-West Bengal, and known of old by the Sanskritised name of *Tamralipti*, was in pre-Aryan-

Dravidian days probably known as *Damālitta* or *Dāmalitta* which could be connected with the word *damṛṣ*. These facts are, in the opinion of Prof. Chatterjee,* sufficient to prove the existence of Dravidian civilisation in Bengal.

The opposite view holds that there is hardly any warrant for us to affirm the existence of Dravidian civilisation *all over India*. Bengal and the Gangetic valley, according to this view propounded by Prof. Bloch of the Paris University, were probably outside Dravidian influence, and if this be so, the extent of the linguistic† influence of Dravidian on Indo-Aryan should have been very small indeed, in view of the fact that the Gangetic valley was pre-eminently the seat of the Indo-Aryan civilisation. In reference to this matter, Prof. Bloch observes: "Even if a connection between Baluchistan (where the Brahui-speaking peoples are found to-day) and the Dravidian Deccan could be imagined, the sphere of Dravidian influence should extend *along the West*, along the regions near the Lower Indus and Guzerat, — and this is indeed the path that certain migrations have taken; but then the Punjab plains and the Gangetic valley which are pre-eminently under Indo-Aryan influence, fall outside the *Dravidian* sphere." Further, Prof. Bloch goes on to say: "Nothing prevents us from thinking that this territory—the North and the East of India—was occupied before the Indo-European invasion by other peoples than the Dravidians; and this hypothesis receives support from the fact that this region does not

* Expressed both in his recent work and in a pioneer-ly written article in the Bengali monthly, *Sabuj Patra*.

† The degree and scope of cultural influence too, in such a case, would be restricted.

tolerate the use of cerebral [!] which is current in the West of India, from the Lower Indus to Ceylon (including the Dravidian tracts of the South). Unknown families of languages might have existed in the East of India and in the Gangetic valley; for instance, without merely relying on the unknown, we note to-day that the Munḍa speeches are distributed over the northern borders of the Deccan; might they not have been driven back there by the Indo-European? Thus, according to Prof. Bloch, the evidence of geography relating to the distributing of Dravidians in India in pre-Aryan days and their influence on Aryan, is unconvincing.

But Prof. Chatterjee's discovery of the evidence of place-names, adverted to above, sheds new light on the whole matter. We cannot but feel, on considering Prof. Chatterjee's facts, that the Dravidians had, in all likelihood, extended their sway and made their influence felt not only in Bengal but all over India in pre-Aryan times.

(To be continued.)

SPREAD OF

ELEMENTARY EDUCATION

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THINKERS have remarked, that Indian education is unintelligible, except through its history. Our historical survey has led us to the view that the dead weight of illiteracy in India is largely the result of the filtration policy of the Government and of the indifference of the educated people. It will be a great wrong on the part of the State, on the part of the people, and on the part of those who derive any benefit from India to leave the education of the masses to the process of filtration. The base of the pyramid of education must be extended without wittling away its apex. We shall see how Higher and Secondary schools continued to be the white elephants of the Department of Instruction, while Primary education was being starved. It is certainly an evil when secondary education outruns primary education.

It is really a pity that neither the educated people in India nor the Government seemed to have realised that unless education penetrates the masses of the country, there can be no social or economic and political progress. In fact all the economical or social and political problems break on the bed-rock of mass ignorance. It is elementary schools, schools which educate the greatest number of people in greatest need of education that are the chief means of humanising the masses.

The educated people clamoured for the extension of education, even primary education, and recited from platforms the parrot-cry for free and compulsory primary education, but in practice, they took great care that the demands for higher and

University education were first satisfied, before the claims of Elementary education were considered. Michael West says:—"With regard to the education of the masses the policy of the Upper classes was clear. It was entirely to their interest that the cultivator should be taught to plough, and the shoe-maker to stitch." The Government authorities too kicked about elementary education from pillar to post.

In these circumstances it is easy to see how higher education progressed rapidly. The establishments of the Culcutta Madrasa, the Sanskrit College, the Madras Christian College, the Culcutta Vidhyalaya and others are all facts to show how the whole movement has been oriented towards higher education. There is no doubt that till the year 1854, the pronounced educational policy was one of giving instruction to the picked elements of population with a view to recruit them for offices under Government service. It was only from 1854 that the real concern of the British Government with Primary education may be said to date. But the Commission of 1882 defined that Primary education should be an aided one.

From the standpoint of economy it is certainly advisable that the State should withdraw from higher and secondary education. A student, for example, educated in a Government college costs the Government over five times as much as a student educated in an aided college, and we will have to raise ourselves the question whether a student educated in the former class is worth to the country five times as much as one educated in the latter. Let us look at how the matter stands with regard to schools. Even here, the cost of educating each pupil in a Government school is over five times as much

as a pupil educated in an aided school. On the other hand, the Government by withdrawing from Government colleges and Secondary schools and converting them into aided institutions could educate ten times as many students with the same money. Here we will have to face an objection. It is true that aided education calls forth the liberality of the people. India does not lack in that. There are a number of wealthy Zamindars who can make voluntary contributions. We can quote as instances the princely donations received on behalf of the Hindu and Mohammedan Universities, and in a smaller way in the case of the 'Pachaiyappa's College' in Madras. Coming to the more recent times we have the monumental example of private enterprise and that is the Sri Menakshi College, Chidambaram. Further, the Indian Institute of Science at Bangalore is the product of generous donations from the Tata family.

The fact of the matter seems to be that the Government have acknowledged the wisdom of the recommendations of the Commission of 1882 and yet in practice they do not seem to move. We know that the Education Commission of 1854 was appointed mainly to concert measures to develop the education of the masses, but it resulted chiefly in improving the education of the middle and upper classes. The progress of primary education till 1904 is described in the Resolution of the Government of India thus: "The population of British India is over two hundred and forty millions. It is commonly reckoned that 15 per cent. of the population are of school-going age. According to this standard there are more than eighteen millions of boys who ought now to be at school, but of this only a little more than one-sixth are actually receiving primary education. In 1902 Lure

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Curzon's Government appointed the Universities Commission and the investigation was followed by the Universities Act of 1904. Let us look at what the Resolution issued by the Governor-General in Council on the 11th March 1904 says regarding primary education. It says: "On a general view of the question the Government of India cannot avoid the conclusion that primary education has hitherto received insufficient attention and inadequate share of public funds."

Thus we see that hundreds of villages did not have any schools and higher and secondary schools continued to be the white elephants in the Department of Education. It is certainly an evil when secondary education progresses more rapidly than primary education. Even these recent developments in education have to a very large extent been tending towards higher and University education, while starving the more important question of universal popular education. Till now we have traced the growth of a spectacle of a blunder based on an initial error of selective education. We have outlined how the whole cry for education has been oriented towards the University, how secondary education has comparatively made good progress, and how primary education has been thrown to the winds.

I remarked in the beginning that higher education is an evil when it outruns primary education. Till recently there was a tendency to multiply Universities. The beginning has been made with the Andhra University which has just commenced to function. We have the proposal for the establishment of a Tamil University. To my mind these rapid developments in the field of higher education

are unhealthy tendencies. With appalling mass ignorance which grows with the rapid growth of population, I cannot understand the tendencies for establishing more Universities. In our enthusiasm for the inauguration of new Universities, we are apt to lose sight of the importance of elementary education, and we are glad our Chief Minister lays special stress on the subject. The University education should be for the few who could benefit the country by research-scholarship and sound knowledge. "Purge the Secondary schools and then the Universities will be accessible to a selected aristocracy of intellect," says Gentile Giovanni. I do really think that the time has come when we should pause before creating further Universities. We should develop Elementary education. A reference to facts and figures will show how progress is distressingly slow. In 1921, 5.1 of the male population of British India, and 1.1 of the female population, were attending recognised schools. The corresponding figures in 1925, were 6.05 and 1.24 respectively. But the latter figures make no allowance for the increase in population in the period. Taking that also into account it is .05 in the case of boys. At the present rate of progress, it will take at least half a century to extend the benefits of education to all children of school-going age.

It is stated that the need for economy delayed the progress. What expenditure is more urgent than one to be incurred on the education of the children of the masses? The total expenditure by the Government on education in India during the year 1924-25 represented only 4 as. per head of the population. This brings home to our mind the gravity of the situation and the smallness of our achievements in consideration of what

is still to be done to free the country from illiteracy.

The average expenditure in Public Elementary Schools in England worked out at 43s. 11d. for a pupil, but there were certain areas, supposed to be the best in the country from the educational point of view, where the average went up to 45s. per student. The Mysore Government is spending one rupee per head per month on Primary education. It is needless to point out the progressive educational policy is inconsistent with the parsimonious attitude of the Government. If I had the choice, I would devote more and more of State funds in the direction of Elementary education.

Among the several obstacles in the way of immediate expansion of Elementary education, I shall take two or three factors for special consideration. Firstly, we are face to face with the terrible retardation of pupils in the lowest classes. For some time our efforts have been directed towards an unwieldy expansion of education with a corresponding decrease in efficiency and without an equally corresponding arrestation of illiteracy. Our energy has been frittered away in efforts to increase the number of schools, without attempting to retain the pupils in these schools, at least for a period sufficient to equip them with a workable foundation of elementary knowledge. It is a sad commentary on the extent to which educational waste occurs in our country that the strength in class five in 1924-25 was only five per cent. of the total strength in the four previous classes. It is deplorable that this represents a decrease from that of the previous year when that percentage was 5.15. Only one girl out of every five admitted into school reaches this stage of education which may be held to connote temporary literacy,

that is, an ability to read and write, which will rapidly disappear if not exercised. The fault according to my mind lies in the system of education followed. India is essentially a land of villages. Most of the pupils are from agricultural communities. There is much in the school instruction which draws the children away from the land and creates in them a contempt for manual labour. This is the great reason why the farmers are not in sympathy with the literary character of the present day education. We must beware of draining the rural life of the country. While we should give a simple education with opportunities for those who are specially fitted to climb upwards, we should at the same time see that instruction is given in agriculture. We have always to remember that everywhere the mass of people belong to agricultural classes. But they are governed by the city man and education is regarded from the point of view of University Dons. It will be better to look at things from the angle of the peoples' needs. Primary education must be so conceived as to make the boy inclined to go back to attend to his farm, for I believe that the future of our country lies in agricultural pursuits. It is therefore imperative to devise a system of education by which we should have the pupils for part time at a school.

Secondly, the pay given to an elementary school-master is ridiculously inadequate. "It should be noted," says Mr. Alston, "that most elementary school teachers in India seem to receive the same average pay as a cooly, a circumstance which makes neither for efficiency in the teacher nor for reverence for learning in the pupils." Mr. Osten, the enlightened Director of Public Instruction, Bengal, remarks on this point as follows.

"My blood boils when I think of the ridiculously low pay of the private school-master. It is peculiar in Bengal to run schools on the blood of poor teachers." If we could pay a satisfactory pay, capable and young men are available. But we will not pay and not paying the salary we do not get the proper sort of men as teachers, and when any one criticises the bad progress made by primary education we turn round and say we cannot make any satisfactory progress on account of want of proper teachers. "You cannot get a Derby winner for 6d. per mile," said a London cabman, "nor could we get a good primary teacher on 10s. a month."

This poor class of men, possessed of only half-developed minds nurtured on starvation wages, carry on the labour of going through the farce of imparting instruction to young and developing minds with the only aim of earning a material support of a wretched and barren existence. In these circumstances how can we expect a half-starved teacher to whom the world is gloomy to infuse in the child any cheerful outlook on life. Mr. Fisher remarks: "A discontented teacher is a bad one, but an embittered teacher is a social danger."

Physical energy of teachers is another essential factor in determining the progress of education in a country. It is obvious that without physical fitness, a teacher is at a serious disadvantage. The output in teaching becomes poorer in quality as physical inefficiency increases. The size of the class affects the health of the teachers. A large class is the cause of the teacher's illness, break-downs and early retirements which lower the value of his work. If elementary education is to progress on right and sound lines, the size of classes must be reduced to more manageable and efficient units. The

recent instance of this educational mistake occurred in the county of Surrey in England where instead of directing the Local Council to reduce the present number of 20,000 classes, each of which had 50 children on its roll, to more manageable classes the Board of Education urged to reduce the staff at the expense of efficiency and depth.

Another serious obstacle to the progress of primary education is the low attainments of school-masters. The following example will illustrate my point clearly:—Entering a village school, a British official said to the master: "What is your lesson to-day?" "About the earth, the sun and the moon," was the reply. "And what do you teach?" "That the earth goes round the sun." "Are you sure?" "Quite sure." "But what is your private opinion?" "I think that the sun goes round the earth."

The inadequate teacher's training tends to make him dogmatic in outlook, content with rules and laws with a finished knowledge when all should be in a flux. The school-master looks upon his learning not as a developing organism, but as something stereotyped. The result is that the teacher slowly but surely ends by shutting himself in a certain number of ideas which are final so far as he is concerned. As Tagore says: "A teacher can never truly teach unless he is learning himself. A lamp can never light another lamp unless it continues to burn its own flame. An elementary school by the very nature of the professional training of its teachers is exposed to a grave danger from which it must be rescued if we mean to keep it alive." Participation on the part of the elementary school-master in the work and studies of Universities has always seemed to me to constitute a real need of primary education.

It is a sad fact to record that these above-mentioned causes besides others have resulted in the establishment of a large class of people in India who have not had education of any kind.

The idea of giving education for the few, leaving the vast population out of account is fraught with a consequence of the gravest character. Where there is a desire for education amongst a small minority, the part that can be played by the existence of education and its results is no more than a parasitic growth on the life of the community. This leads to the view that education is merely a tool whereby a certain class is benefited and with which the rest of the community has no concern. Further, there is always the danger of creating a wide gulf between the upper classes and the rest of their fellow-citizens. Now this is the way to discontent and unrest. As my master Sir Michael Sadler, the Master of University College, Oxford, in his address to the pupils of the Leeds Girls' Modern School, observed, "One inference to be drawn was that if in a country where the multitudes were illiterate we gave a number of selected persons, a highly specialised, stimulating and privileged secondary education, we were in danger of producing a gulf between what is called the proletariat and the rest of the fellow-citizens. That was the way to revolution. It was exactly what had happened in Russia, and this was one of the dangers which confronted our fellow-subjects in India. It would never do for us to develop Secondary and University education, unless we felt it in our power to improve the whole spirit of education in town and village."

These instances will point out how important it is to realise the magnitude of the danger of

incomplete education in India. Unless the area of education is widened by a system of really-worked universal free education thereby drawing upon the neglected and uncultivated powers of the people, it is difficult to see how the extending machinery of Local and Imperial Governments could be usefully and permanently worked. We should therefore exert ourselves to make sure that we are using the educational machinery in India to the benefit of all.

How are these unsatisfactory features of elementary education to be remedied. A very useful work of elementary education will be its efficiency to revive rural life. The lack of popular interest in the country side, the decrease in the production of food stuffs and the lure of the city are all rearing their heads in the economic life of India. These economic upheavals could only be avoided by a better adaptation of the work of rural schools to the needs of the rural life without neglecting the larger life outside. The aim of rural education is to create a sound and happy country side. The first line of advance would therefore be in the introduction of agricultural education into village schools. But there is no available supply of instructors for such training and if they are to be forthcoming, the first need is to establish schools for training of industrial instructors in the various language areas. What is needed next is a school in connection with a boarding-house with a few acres of land attached for cultivation, a carpenter's shop and a weaving shed. The farm would pay some part of its own cost, the carpenter would make the school furniture, and some of the pupils' cloths might be woven in the shed. The superintendent of the boarding-house would be a man who would be a specially qualified industrial instructor. The school would be a half-time school, one part of the

day would be devoted to ordinary school subjects, and the other half to industries. From the boarding-house as centre an advance might be made to extend this system to village schools. It is also advisable to have change of text-books in harmony with rural surroundings. With a view to achieving this, it is worth while to have sketches of an Indian peasant's mind and his mode of life. For example, the peasant's house, his furniture, his surroundings, his daily life from childhood to old age, his earnings and outlay, his views of right and wrong. Similar sketches might be multiplied. A graduated series of books containing illustrations and exercises drawn from agricultural life may be framed.

Connected with the primary education is the problem of adult education, the importance of which has not yet been recognised in our country. For a number of years to come, the problem of the education of the masses can never be solved by mere elementary education. Even assuming that we succeed in making primary education universal, the relapse to illiteracy is bound to be marked unless provision is made for adult education. With the introduction of the reforms and the widening of the franchise, the need for adult education is getting to be more pressing in India, and we are glad to find that the Government of the Punjab is paying attention to this matter. A portion of the Grants-in-Aid given to District Boards for Vernacular schools is being earmarked for adult schools. On the 31st March, 1925, there were 2373 schools for adults in the province with 61,961 pupils and this is a record of which the Government may well be proud. Besides these permanent schools it is also proposed to have a large number of temporary night schools in selected

areas. It is interesting to note that the small progressive State of Mysore has a large number of night schools intended for agriculturists and labourers. What about Denmark? The leading community in Denmark, the farming community, which is to-day admired by the world for its culture and progress, was at the close of the 18th century steeped in ignorance and poverty. The Folk High School is the most potent factor in the rise of the Danish peasantry. This movement was started for educating adults not less than the age of 17, for short periods. It is intended to enable grown-up people to study subjects like agriculture in a scientific spirit. I therefore plead for concentration of efforts on the adult education movement. There should be part-time or continuation schools for the benefit of those who leave the elementary schools and go to work on land or become wage-earners. After the elementary school stage, some wish to learn trade; and for these there should be industrial and commercial schools. In a word, adult education will be one of the best means of combating illiteracy in India. When their minds are lighter and when they grow from strength to strength, the adults will be powerful educative forces. They will realise how hampering is ignorance.

Another useful function of Elementary education is the provision for a summer course on teaching. Education is a life-long activity and a teacher who needs to have a developing mind needs constantly to be growing. We therefore propose a short and popular course of lectures on the recent developments on Educational Theory and Practice. The programme may include courses of educational psychology and mental measurements, besides methods of teaching special subjects. Every teacher who has passed through a training institution should

be required to attend a course here each year for at least five years, after he leaves the institution. Attendance at these courses would make the school-masters up-to-date; and would also create in them a taste and a sincere desire to study matters educational.

There is need for a continuity of study between Primary education and Secondary education. I am anxious that these elementary schools, while they ought to prepare such boys and girls as desire it for higher education, ought also to be self-contained, complete units, so that, after, say a few years' course in these schools the boys and girls should feel the better for it in the surroundings in which they will have to live. The curricula and courses of study of elementary schools do not appear to me to grow into curricula and courses of secondary schools. Some time ago, it was even thought expedient to penalise the pupils who sought admission into the secondary schools from elementary schools. It is essential, therefore, that the syllabuses of secondary and primary schools should be so dovetailed together that the secondary education may be a natural growth of elementary education, or evolved out of it. The curricula and syllabuses should be so prepared as to afford not only a continuity in the scheme, but also serve as a preparation for life. To that extent it may be possible at the end of each stage. There is another point where organic unity should be effected between Elementary and Secondary masters. The primary school masters who constitute one group live like an isolated colony in their own land. The high school-masters live in their own land developing their consciousness of the all importance for the education of their countrymen. The peculiar evil of this unbridged gulf is a

danger to the progress of education. The establishment of a National Association of Teachers would bring to their minds the idea that they all belong to one comprehensive system, and this will serve to maintain the unity of the teaching profession.

Another place where reform is needed is with regard to change in the hours of work in rural schools. We find that certain schools in rural tracts work like schools in towns between 10 A.M. and 5 P.M. This is most unsuitable for village life. The best hours of working should be between 8 A.M. to 11 A.M. and 2 to 5 P.M. The vacations for these schools should correspond to the harvest season, when boys are obliged to take holidays, instead of the summer days which are of no use to pupils nor to the school-master.

My constructive proposals are the following:—

To sum up

- (1) the need for maintaining an organic unity between elementary education and secondary education;
- (2) the need for retaining influence over learners after leaving school;
- (3) the urgent necessity of elementary education is its efficiency to revive rural life;
- (4) the compulsory attendance of elementary school-masters at the refresher course for one month for five successive years after leaving the training school;
- (5) change in the hours of working of rural schools.

I have made an honest attempt to look at elementary education from three points of view: historical, critical and constructive. I do not pretend to be exhaustive in my work. But I sincerely believe I have indicated a way, a process of training the pupils for life, in life, and by life.

simple. It was caning. *One* cane for talking, *two* for coming late, *three* for neglecting work and so on. Pulling the ears or dealing out blows sometimes took the place of caning. Corporal punishment has no place now in a good school, except in very very exceptional circumstances. Your difficulties are therefore greater. There is no penal code for schools and yet all sorts of evils do still exist. You are therefore confounded when you go to a new school. The discipline is at first likely to get lax, the boys try to become free. I remember a class once greeted a new teacher by producing certain zoological sounds. At times therefore your temper will be sorely tried. Over-government or under-government, these are the two pitfalls in which you are likely to fall. "Repress all freedom" is the advice which most of your friends will give. But "freedom has sometimes to be tolerated, often to be connived at, and always to be encouraged" is what sober judgment will tell you. Petty cases will sometimes be brought to you. "Sir, Rama has spilt ink," "Krishna has abused me," "Govind has slapped me," &c. In your over-enthusiasm you will be tempted to go into the details of these cases. I would advise you, if I may, not to care for them, let the boys be informed that they are to decide them for themselves or refer them to the prefects or monitors, otherwise their number and volume will increase and you will have no time left for higher things. But take immediate action when there is a case of moral turpitude or when a boy breaks a rule of sanitation, such as committing nuisance at places or spitting, &c. Watch the boys closely, do not hesitate to mix with them; rather invite them to see you at particular hours of the day. You should seek opportunities of giving

advice to boys in private talks, especially to those whose conduct may have laid them open to suspicion. This requires a special study of questions relating to personal hygiene, &c.

Be accessible. Remember that the teachers who have moulded the lives of boys have been men who allowed them access. If you will do so, the boys will follow you, imitate you, learn from your own conduct and character. Some of them will imitate even your mannerisms, your mode of writing and your gait of walking. Be accessible, and yet allow the boys to mix with their mates and allow yourself also to be detached from them whenever you like. Let the student look up to you for help, for guidance and for inspiration. Enter into his difficulties, moral, spiritual and even economical, and help him if you can, out of them, without making him feel servile and dependent. Charles Lamb describes a gentleman who was giving his parting directions in a tone of mild authority while entering a coach, to a youth who seemed to be neither his clerk, his son nor his servant, but something partaking of all the three. The gentleman was a school-master and the youth a student. I hope none of you will ever try in your life to answer this description, and your treatment towards your pupils will be almost that of a father to his son. I have seen teachers who have brought cheerfulness to the discouraged and the faint-hearted, who have made by their presence the offender confess his fault, and who have by their contact reclaimed the most evil-minded youths. There are many other learned professions. There is that of the Lawyer but his relation with his client ceases when his legal work is over. Similarly the Engineer, the Judge and the Magistrate

loom large only when they are in harness but the teacher's relationship with his pupil does not cease when the class work is over. As house-master in a boarding-house, as supervisor of games and in many other ways his influence is subtle, abiding and almost spiritual. If he has an evil habit it spreads among boys, even when he takes care to indulge in it in his retiring room. Please therefore realise your responsibility before you enter the threshold of a school as a master.

I take it for granted that as trained teachers you will master the subjects which will be assigned to you but this will not suffice. You will have to study some literature that puts moral fervour in you. If possible be wedded to some great cause, religious, humanitarian or social. It seems to me that the youth movement has a great future. It is as much intellectual, as moral and social. Scouting should appeal to all teachers. It kindles in the teachers and the taught a sense of solidarity and brings into prominence the special merits a particular individual may possess. It creates in all of us the feeling that all our private virtues are for the service of humanity and therefore love, humility and order should take the place of hatred, vanity and disorder and makes even the richest among us feel that there is nothing mean in what we call "menial" work, that drawing water from the well, washing vessels, carrying luggage are not duties which necessarily require the services of a servant, that our development, physical, intellectual and moral, should go together, should be harmonious. Scouting encourages athletics and other healthy tastes and occupations and instils into the minds of boys a reverence for religion, in the broad sense of the term.

I am afraid I have rather been didactic throughout this address. The first person singular has perhaps been lavishly used. But I should crave indulgence for making a hurried reference to one or two other matters.

No class of public workers could develop a higher sense of self-respect than the teachers. If a teacher is late by one minute, he is likely to lose his self-respect. He should begin work in time, should keep the class engaged, should be able to find out if any boys play the truant. I should not have mentioned these facts but unfortunately more often than not there is a tendency towards inertia and to neglect what are supposed to be small things.

I should have liked to dilate upon the teacher's relation with the public, upon the possibility of the home and the school working in unison but there is no time for it. There is a tendency for the parents to blame the teachers and the latter to blame the former. I would throw the doors of the school open to the representatives of the parents on a fixed day in the week. I would welcome all opportunities to meet the parents in leagues or in conferences, I would make the progress report of the boys, not a part of the dull routine of the school, as it is, but an object of value to serve as a mile-stone to measure the progress of the scholar. The distribution of the progress report after the annual examination should be a solemn function to which parents should be invited. We complain that the parents put in an appearance only when their sons fail at the examination. The complaint is true, but have we ever made any serious efforts to enlist their co-operation and to bring them into touch with the working of the school? Most of the parents are illiterate and poor. When they find their wards are not making

satisfactory progress, they engage a private tutor. No system has brought more ignominy to the teachers as a class than this accursed system of private tuition. It did not exist in my days, when three or four boys used to meet together and help one another or we used to go to our teachers, who gladly taught us at home without any remuneration, just as Pandit Kali Prosanna Chakravarti's doors are always open in the afternoons to those who seek his help and even from the richest he expects no monetary gain. When I was a student and had just entered the college, there lived in this city Pandit Mathura Prasad Misra, a retired Headmaster of the Queen's College, who was passing his last days in religious meditation. In the evenings a number of students belonging to different schools used to gather round him and he considered it his sacred duty to correct their English composition and pronunciation. It was a privilege of my life to have sat at his feet, just a year or two before he died.

If circumstances force you to be a private tutor, do not take charge of a boy who belongs to the class which you teach in the school, do not open your lips in his favour at the teachers' meeting, resist the temptation to pry into the question papers set by your colleagues for his class. These precautions will help you in maintaining your reputation.

The teacher should have a personality. It does not come by making a fetish of clothes. It does not assert itself by means of rods. It does not consist in outward demonstration of power and position but in inward poise and potency. It lies in the possession of a sound mind in a sound body, in balanced judgment, in over-flowing love, in working in the light of some high ideals. It is something indescribable but we all understand what it means. May you all depart from here in quest of this indescribable quality and may you travel from progress to progress is my prayer to Ishwar!

I thank the authorities of the Training College for affording me this opportunity to serve humbly my brethren, the students of this college.

MEDICAL INSPECTION IN SCHOOLS

By Mr. S. VAIDIANATHA AIYAR, B.A., L.T.,
Headmaster, Municipal High School, Walajapet.

THIS wholesome scheme has left the region of academic discussion and entered the plane of actual working. From next school year it will become compulsory and a condition of recognition too. Hence a large number of schools will have to introduce it and correspondents of schools and local medical officers are busy doing the preliminaries.

The history of Medical Inspection need not be detailed here. Suffice it to say that in foreign countries educationally advanced, the interaction between health and intellect was proved by close observation and varied experiments some years ago. The defects in pupils' health, organic or functional, were found to be the cause of intellectual backwardness. When these were diagnosed and remedied, the pupils were found to have shown perceptible improvement.

In Madras too it was about to be ushered in by the Department some five or six years ago on a voluntary basis, but questions regarding the scope of inspection, the agency that should carry them out and arrangements for co-ordinating the results and finance not having been sufficiently and definitely solved, the scheme was kept in abeyance till now.

As at present arranged, the following are the important details of working:—

Scope of inspection: Every pupil will be examined once a year and a record in the prescribed form of the results of inspection, with all details regarding defects noticed, will be made and maintained from year to year. Such of the defects requiring immediate attention will be pointed out to the parents

and all possible preventive and curative measures are intended to be taken.

Agency carrying out the work: The medical officer in charge of the local hospital or dispensary, of the grade of Assistant or Sub-Assistant Surgeon, will invariably be appointed by the Management to do the work on remuneration as mentioned below. The Surgeon-General, the Director of Public Health and the Director of Public Instruction will have before them the annual medical review of all schools so as to have the required co-ordination in work.

Finance: The fee for inspecting each pupil will be a maximum of twelve annas for the first inspection and annas six for each subsequent inspection and this will be met equally from the payment by the pupils and contributions by the management and the Government.

Under the above arrangement the scope for usefulness will only be limited. The medical officer already overworked cannot do this work as thoroughly as it ought to be. He will have to examine a number of pupils at a time during his leisure. When once the whole school is examined the work for the year will be over. He may have sometimes more schools than one. Thus every pupil will have an annual half an hour to twenty minutes affair. After that, unless for particular ailment the pupil goes to this doctor, there will be no opportunity for the doctor to visit him. Farther, the doctor has no occasion to see the pupils in the class during working hours or during drill periods, or at other times. Things that would have escaped during the formal inspection might be detected on these occasions. And certain pupils are to be watched from time to time.

Opinion is also expressed in some quarters that special training is necessary for a successful medical inspector of schools, as there is a special course and degree for Health officers.

I am therefore making just one suggestion which, in my humble opinion, will go a great way to make the scheme of medical inspection really a boon and pave the way for securing the vigour and health of the Indian nation. If the charge is laid against the intellectual Indians for their weak health and inability to stand the physical strain in hard work the root cause is to be traced to schools. The generality of Indian boys are apathetic towards proper physical exercises and the method of keeping fit. What is being done at many schools is merely formal. Hence a well-defined system in this important matter of the physical welfare of the boys is as essential as curricula of studies and syllabuses.

My suggestion is the appointment of a full-time Medical Inspector for each complete secondary school. He may be an M.B. & B.S., or an L.M. & S., or even an L.M.P., according to the status and strength of the school. He will be a permanent member of the senior staff of the school like L.T.'s. He will be in charge of the teaching of Physiology, Hygiene, General Sanitation and First Aid in the several classes in addition to his work proper—medical inspection. He may be allowed, if necessary, private practice under some conditions for his income, in addition to the substantive pay he draws from the school. He will be thus daily in close touch with pupils as their teacher and doctor and with parents as their guide and friend.

Some fear is entertained in this matter on the analogy of a Tamil saying: "When a physician goes to the vegetable market he will condemn every item as productive of some disease or other." The fear here is that the medical inspector will detect in pupils some disease or other, and such pupils will be sent away from schools. It is true that majority of boys are unhealthy. It is truer that most of these will be made to become healthy. As it is, there are serious cases of bad vision and ear, contagious skin diseases, etc., but they are either not noticed, or even after being noticed allowed to grow worse and spread to others without anything being done. For there is no provision for it. As I said above, the Medical Inspector being a permanent member of the institution, becomes a guide and friend of the parents and a well-wisher of the school and there is no room for entertaining such fear.

There are now more medical men than there are places in Government service. Hence those that are now private practitioners will gladly accept the post of Medical Inspectors in schools as proposed above. There is stability on both sides. The fees to be collected from pupils and contributions from the management and Government may slightly be enhanced and the advantages arising from the appointment of a permanent medical inspector would amply justify the small increase in cost. The Government are now giving grants to rural dispensaries and the services of private medical practitioners are requisitioned. A school with 500 to 1000 pupils also deserves a substantial grant from the Government. Each school may have a small medical room with important appliances and medicines that may be required for first aid work. When some private houses have

such facilities a school where hundreds of pupils assemble and remain a great part of the day should certainly have a fairly well-furnished medical room in charge of the Inspector. A certain amount of money is being spent every year with grant-in-aid on equipment for teaching. The above item is equally if not more important.

When the Health Department is becoming a separate one widening in its sphere of activities and when there are special officers as Physical Advisers to Government it is time to see that every complete secondary school at least has a medical inspector and a Director of Physical activities on its staff. These should be considered as essential as specialists in Science, Mathematics and other school subjects.

Having made the suggestion and tried to show how it is workable I hope that it will be given the consideration it deserves.

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THE LIFE AND POETRY OF RABINDRANATH TAGORE.

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(Kurnool Dt.)

RABINDRANATH TAGORE, youngest son of Maharishi Devendranath Tagore, was born in Calcutta in the year 1861. He lost his mother even while he was still a child, and this told immensely upon him "giving him a peculiar regret for the mother's love, which was so sharply broken off in his experience, and which threw him back upon the consolations to be had in that boyish communion with Nature which helped to fill the solitary days of his childhood." His school-days were not happy as they ought to be, but very unpleasant and disgusting. "He tells us how one of his masters used to order him to stand in the hot-sun unprotected for hours together for not learning his lessons perfectly," and this kind of inhuman and unbecoming system of education was not only unsuited to Rabindranath's peaceful and retiring mind but also inimical to the free growth of his soul. His father had therefore to take him out of school and put him under the care of private tutors. Tagore went along with his father on a Himalayan tour which helped him greatly in later life. Nature got a strong hold of his mind. His career as a literary man began very early. He was first moved by the songs of the Vaishnavite poets of Bengal, Vidyapathi and Chandidas. He took full advantage of the facilities given to him by his father in the matter of acquiring knowledge, and learnt music and *vagas* and a host of other useful things, and began to write songs and stories and "anything that expressed his joy of life and nature." He wrote original poems in

Sandhya Sangit (songs of sunset) and Prabhat Sangit (songs of sunrise); and at the age of 14 he produced the *Genius of Valmiki*, a musical opera. He used to contribute articles to his family magazine, the *Bharati*.

He was sent to England for study at the age of 17. He studied in the University College for a short time and returned to India a year afterwards, and again went to England to study law, which also he found unsuited to his nature and returned to India.

THE SHILAI DA PERIOD.

Tagore now began to write poems, songs, stories and dramas in a ceaseless stream, and he became known as an original poet of high merit at the age of 18. He married in his twenty-third year, and at the command of his father, and at first, much against his will, he went and settled down to manage the Shilaida Estate, where, in self-communion, meditation, and by observation of peasant life, he understood the real philosophy of life. Here he wrote his play *Chitravagada Visayan* and *Raja O Rani*, and he wrote the most exquisite love poetry in the Bengali language till his thirty-fifth year. Then he lost his wife, his daughter, and his youngest son. His later writings bear a higher spiritual note and it was during this period that he wrote his *Gitanjali*.

He again went to England for the sake of his health and stayed with his son during his University career and translated some of his poems in "Gitanjali", "The Gardener" and "The Crescent Moon." "Sadhana," a collection of his English lectures delivered in America, appeared. He was awarded the Nobel Prize in 1913 and he devoted the entire amount of £8000 to his Bolpur School. In the year 1918 the Calcutta University

conferred on him the degree of Doctor of Literature. Later, the Government knighted him. He then went on a lecturing tour to Japan and America to collect money for his school. His next achievement is the starting of an "Art House," a school for teaching arts and industries, and his Bolpur School is one of the most admirable institutions of India.

His works now available in English are: "Gitanjali," "The Gardener," "The Crescent Moon," "The King of the Dark Chamber," "The Post Office," "Chitra," "Sadhana," "Translation of One Hundred Poems of Kabir," "Glimpses of Bengal Life," "Fruit-Gathering," "Hungry Stones and other stories," "The Fugitive" and others.

HIS POETRY.

A sympathetic study of his poetry will reveal to us the central truth towards the realisation of which he is ever striving with deep devotion. Throughout his work we see him saying that the truth of the unity of all things in the Divine Mind has got to be realised by each for himself, and that all things in Nature are but the outward manifestation of that inner Super-personal Reality. To him "Mankind, in the depths of its nature when civilized, and near the surface when uncivilized, knows instinctively that the hidden Thing after which it is searching is not a system of thought but a reality of consciousness; not a code but a Being."

He is a mystic, that is, a person who has surmounted all the barriers, the brass walls of Abhankara, and who expresses in a magnificent way; and his mysticism, the attainment of God-experience or God-consciousness expresses itself in his poetry from the centre of a big intuitional assumption. In his thinking and feeling, he is a true mystic

because he has got down to the highest, divine realization through "the rapture of renunciation." He sees a beautiful face and says, "There goes God as nobility." He ignores the transcendental physical part of things, because he, like every true Hindu, easily perceives the Eternal because of the power of contemplation. He reveals the eternal through the transitory and shows the significance of the insignificant. He takes the small also and embodies in it the big universal things. Look to the dogmas, and you see differences, but look through them, you see the real harmony. Everything in the universe is interdependent and cohesive, and this Promethean idea is beautifully expressed in his book, "The Fugitive," and particularly in the following lines, which show the real Tagore.

"Darkly you sweep on, Eternal Fugitive, round whose bodiless rush stagnant space frets into eddying bubbles of light.

Is your heart lost to the Lover calling you across His immeasurable loveliness?

Is the aching urgency of your haste the sole reason why your tangled tresses break into stormy riot and pearls of fire roll along your path as from a broken necklace?

Your fleeting steps kiss the dust of this world into sweetness, sweeping aside all waste;

The storm centered with your dancing limbs shakes the sacred shower of death over life and freshness her growth.

Should you in sudden weariness stop for a moment the world would rumble into a heap, an encumbrance barring its own progress, and even the least speck of dust would pierce the sky throughout its infinity with an unbearable pressure.

My thoughts are quickened by this rhythm of unseen feet round which the anklets of light are shaken.

They echo in the pulse of my heart and through my blood surges the psalm of the ancient sea.

I hear the thundering flood tumbling my life from world to world and form to form, scattering my being in an endless spray of gifts, in sorrows and songs.

The tide runs high, the wind blows, the boat dances like thine own desire, my heart

Leave the hoard on the shore and sail over the unfathomed dark toward the limitless light."

The lover spoken of in the poem is Purusha, the positive, masculine side of things, and our thoughts are quickened by the rhythm of His unseen feet. The rhythm is the dancing of Shakti. The universe is so dedicatedly poised that if (having gone out of it) you could introduce a perfect thing into it, you could break it. It is, as it is, relative, and all universal thoughts are quickened into life by this cosmic dance of Shakti, and everything is sympathy, that is, coming together. There are similarities because of the Atman being the same and differences come because of the accommodation of truth.

The natural attitude of his whole nature is from the spirit to the detail. He sees things more or less simultaneously and not in succession, and thinks in a figurative way. He is on the wing and looks on the details of life. He begins from the Ultimate Vision and works to the detail. He has the simultaneousness of expression in the sense that he clothes the Ineffable Being in human imagery, which by itself is inexpressible. He feels he has lost something and therefore cries out to the Divine for help and gets the Peace. His pure mystical vision is seen in poem 45 of the Indian Edition of "Gitanjali," where he says:

"Have you not heard his silent steps?

He comes, comes, ever comes.

Every moment and every age, every day and every night he comes, comes, ever comes.

Many a song have I sung in many a mood of mind, but all their notes have always proclaimed, "He comes, comes, ever comes."

In the fragrant days of sunny April through the forest path he comes, comes, ever comes.

In the rainy gloom of July nights on the thundering chariot of clouds he comes, comes, ever comes.

In sorrow after sorrow it is his steps that press upon my heart, and it is the golden touch of his feet that makes my joy to shine."

Tagore feels the Divine Presence. He thinks of Him even when he is in blues over things. He does not write but sings poetry. His poems of "Gitanjali" are all like garden blocks and not like lines of Western poetry, and so, we cannot call his poetry English poetry in the ordinary sense of the term, and it is not free-verse either, for the method of free-verse is not repetition. His is highly lyrical poetry. He is primarily a Bengali poet spreading his vital spiritual influence among his people. We have to think of him as an English poet because he has somehow become part and parcel of English literature and has thus got over the barriers of two languages, Bengali and English. He has in addition become a world-poet because he has felt and said:

"My heart is not mine to give to one only,

It is given to the many."

His "Gitanjali" we may say his highest achievement up till now, has taken a place alongside "The Rubaiyat of Omar Khayyam." He, like Shelley, has his eye on the fundamental Divine Totality. Thus he sings:

"There is a locker-on who sits behind my eyes. It seems he has seen things in ages and worlds beyond memory's shore, and those forgotten sights glisten on the grass and shiver on the leaves. He has seen under new veils the face of the one beloved, in twilight hours of many a nameless star. Therefore his sky seems to ache with the pain of countless

meetings and partings, and a longing pervades this spring breeze—the longing that is full of the whisper of ages without beginning”.

We have come from the divine which includes all things, and so when we see a thing we say, “Ha! Beautiful! Wherefrom are you coming? Oh! I see, you are coming from the Absolute.” And Tagore feels the Eternal Youth in him as he grows older, and sings: “I am the eternal youth, and you shall meet me again and again in your voyage of life from shore to shore.” In these lines we see him speaking about reincarnation, and we also see the second reason why he has become a world-poet.

“Lest I should know you too easily, you play with me.

You blind me with flashes of laughter to hide your tears,

I know, I know your art;

You never say the word you would.

Lest I should not prize you, you elude me in a thousand ways.

Lest I should confuse you with the crowd, you stand aside.

I know, I know your art;

You never walk the path you would.

Your claim is more than that of others, that is, why you are silent.

With playful carelessness you avoid my gifts.

I know, I know your art;

You never will take what you would.”

This is not a poem which we can easily explain. The revelation must come, and then only will the meaning be clear to us.

The special gift of India to English literature as seen from the poetry of Tagore is that everything is dignified with the fulness of vision and the true perspective, and the following song typifies this thought:

“Endlessly varied thou art in the exuberant world, O Lady whose garment is the manifold; whose path in the sky is strewn with throbbing

lights; whose fitting touch on the earth breaks into melody of flowers; the sweep of whose trailing mantle rouses a whirlwind of dance among the spheres, and whose many-voiced calls are answered from world to world in language of signs and scents and colours. Countless legends of thine are wrought in stones and images of gold, sung in songs and uttered in million voices.

Thou art One and Alone on the seashore of the soul, O Lady of the silent solitude, one single vision veiled with light, one lone blossoming on the stem of love, one moon in the bareness of midnight, in the infinity of peace. There thou standest before thy lovely worshipper with the gaze of thine eyes unfathomably dark, an image of the moveless lightning!”

Tagore says in one of his poems of “Gitanjali,” “Become as high in character as possible. Become poor by giving your spirit to others, and enjoy the richness of giving to others. Strike, not at the root of penuriousness of physical or mental poverty, but strike at the root of penuriousness of spirit, niggardliness of spirit, close-fittedness of spirit, at the centre of your nature. Take care of the centre and the circumference will take care of itself. Be simple and get at the truth. You may be poor in material possessions. Does not matter. Squander the riches of your spirit, and *never* be poor in spirit. We do not create spiritual riches but *they* are bearing down upon us, and we are all channels for their expression. We rid ourselves of self-seeking. We are not manufacturers of spiritual wealth, for if we do so, we become egotistical, and the truth is lost to us.

There is a beautiful song of his written in celebration of the inexhaustibility of the spirit, and it runs as follows: “I thought that my voyage had come to its end at the last limit of my power,—that the path before me was closed, that provisions were exhausted

and the time come to take shelter in a silent obscurity.

But I find that thy will knows no end in me. And when old words die out on the tongue, new melodies break forth from the heart; and where the old tracks are lost, new country is revealed with its wonders.”

He says, “What is irregular and abnormal may later on become controlled and normal. I talk of limited things, such as paths being closed, etc.—all talk of external things—but Thy Will is infinitive. No beginning, no end, but only Is Now. Things will come right. Do not mind the things that are troubling you, for these troubles, these storms are mere breakings on the eternal calm, and are only seeking their end in peace, in calm. Only, take care of the spirit in you by having a good attitude.”

Rabindranath, as he himself says, is a humble teacher, teacher not in any official-ridden educational system, but a teacher working absolutely freely like a free bird in an atmosphere of love and toleration. He is so much loved and revered by his pupils that he is called “Gurudev,” the highest honour and respect that any one can give him, and he is glad that he is a teacher and nothing else. It is delightful to learn “Janaganamana” sitting at his feet, and I, along with many Madanpals, had the proud privilege of learning the song at his feet when he visited Madanapalli a few years ago. He even explained to us the meaning of one or two songs of his “Gitanjali” in English with such great ease and feeling that we all forgot ourselves. He creates an atmosphere of happiness for the expression of the nature of the individual. He knows not simply the principles of psychology, but practical psychology, and he always looks at the *soul*

of the individual and awakens it by teaching him whatever he is interested in. He has a silent reverence for the individual child because he sees in him the Eternal Teacher revealing his glory. He recognises the sacredness of his work in life and feels that he is a consecrated priest. He offers to his students the camphor of purification and the flower of love. His ideas as to how education should be are embodied in the following poem:

“Life of my life, I shall ever try to keep my body pure, knowing that thy living touch is upon all my limbs.

I shall ever try to keep all untruths out from my thoughts, knowing that thou art that truth which has kindled the light of reason in my mind.

I shall ever try to drive all evils away from my heart and keep my love in flower, knowing that thou hast thy seat in the inmost shrine of my heart.

And it shall be my endeavour to reveal thee in my actions, knowing it is thy power gives me strength to act.”

Rabindranath expresses the great power of the Universe that is working through every detail of life in perfect order, for, “Order is heaven’s first law.” The whole Universe has sprung from the same divine source, and everyone of us is bound to return to that source at some time or other, and in this connection, I most humbly beg to point out that it would be true to say, “I shall ever try to keep *thy* body pure and not *my* body, because everything is His.”

Tagore knows that a great dynamic power in him possesses him, and he echoes the Divine Song and Harmony according to his ability. The moment he turns his face away from the sight of the Lord, his “heart knows no rest nor respite,” and his work “becomes an endless toil in a shoreless sea of toil.” Almost every line of his poetry is guided by this one

dynamic influence. In him an impulse arises but it does not cramp the intellect as it does in the case of Shelley, but slowly adjusts itself into exquisite poetry. "He is sanguine-complexioned and shrill-voiced" like Shelley, and he felt he could write Shelley's "Intellectual Beauty." Shelley, when in the school-room, got a vision of the Intellectual Beauty and he came out and 'shreiked in ecstasy.' Intellectual Beauty, to him, is beauty of consciousness which creates all things. A wonderful *glimpse* of an object catches his mind, then his emotions get to work, and then the inspiration comes as a result of thrill in the body. He warms up to his subject, that is, he starts writing and he gets inspiration.

Tagore sees a beautiful object and from it he goes to the abstract perception. "Love," says Shelley, "is inevitably consequent upon the perception of loveliness. Love withers under constraint, its very essence is liberty; it is compatible neither with obedience, jealousy, nor fear, it is there most pure, perfect and unlimited where its votaries live in confidence, equality and unreserve." Tagore utters the very same truth, but in a different way. In almost all his great works, we find him penetrating the mysteries of existence having a large insight and the strength of a bold man, and bringing out truths which have found their expression in action in the simple perpetual attitude of give, give, give. He saw all exquisite things which got into the very tegument of his mental nature and precipitated themselves into songs, which are full of pepper.

In the "Crescent Moon," Tagore reveals to us the heaven of the child's mind and soul, how it is full of sweetness and divine simplicity and how it is nearer to God. He

deals with many aspects of love in his "Gardener," and much of his love-poetry, and lofty devotional poems are beautifully expressed. "Fruit Gathering," a sequel to "Gitanjali," contains poems of "perfect loveliness revealing new elements of beauty and spiritual emotion."

And the greatest of all this works, "Gitanjali," which is full of profound thought and high idealism, gives him the highest place in literature. It is into this book that Tagore has thrown many a gem of devotional poetry, and has discovered the soul and surrendered himself to its spontaneity. It is here that we have

"A tone

Of some world far from ours

Where music and moonlight and feeling are one."

Tagore is a great river which enriches the soil upon which it flows. To him, the greatest and the best in the world are eternal and non-personal, and everybody has a privilege to receive them, and he has this as the motto of his "Viswabharati." Everybody has to renounce, for as Dr. Cousins says: "Renunciation is a condition for the attainment of outer ease in which the inner life may have a chance of manifesting itself. Glimpse the life behind life." Have a firm belief in One Supreme God. "Recognise the spiritual unity of the human race, and its oneness with the Divine Life, for, it is the one Divine Power that is energising the multitudinous activities of the Universe."

RECENT SCHOOL BOOKS IN MODERN LANGUAGES— A REVIEW

By Mr. L. V. RAMASWAMY AIXAR, M.A., B.L.
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The study of modern European languages other than English has not become popular or widespread in our Universities. The reasons are not far to seek. For one thing, our syllabuses are already over-weighted with a multiplicity of subjects, which positively precludes any further over-loading. Secondly, our boys do receive some language training already, inasmuch as they have to learn at least one Indian language, besides English. In these circumstances it would be a hardship for the school-going population if the authorities were to insist on the compulsory study of French and German. Yet there are advantages to be gained by encouraging their study at least amongst a select few who either display a linguistic aptitude or who have to specialise in literature, science or commerce. The student of special literature gets his outlook broadened infinitely if he cultivates first-hand acquaintance with the masters of continental literature. The student of advanced science feels at every step the desirability of knowing French and German so as to keep abreast of the recent most scientific researches. Similarly, the commercial man also stands to gain a great deal by learning the most important among the languages of Europe. These reasons apart, one other general consideration should act as an incentive to our authorities for popularising the study of European languages. Much of what we know of the world and its happenings comes to us reflected through English mirrors, our intellectual food (to vary the figure) is prepared for us by English purveyors and assimilated by us in the English mode. Civilisation, as it appears to us, is only what Englishmen have been able to make it out to be. Other national points of view are practically shut out from our view. Of course, there is no use of carping at Englishmen for this. The unconscious bias is inseparable from the view-point of every nation. An acquaintance with at least one other European language than English, would be a healthy corrective for the inevitable one-sidedness that arises from our exclusive attention to English. This fact is, we are told, recognised in Japan where advanced

students in all subjects have to cultivate a working knowledge of at least two European languages. This example might be copied in India. Though the peculiar needs of our syllabuses prevent the possibility of universalising the study of European languages, at least those of our students who specialise in subjects might be induced to take up a continental language.

Suitable books which would introduce the beginner to the elements of French and German exist in plenty. Messrs. D. C. Heath & Co. are one of the most enterprising publishers of such books. Some of their recent publications are written on quite up-to-date lines. *A First French Reading Book*, by E. A. Woolley and H. L. Bourdin (Price 2s. 3d.) is one of such books. Easy French stories, written in a narrative style, with the grammatical features embodied in a graded way, elaborate exercises and an exhaustive vocabulary form the contents of the book. The stories deal with, or are adapted to, French scenes and life, and this forms an additional attraction to the Indian beginner. The tales are not mere "impossible" fables, "legless" as we term them in Tamil, but possess a certain measure of truth to life. Some of them like *Le petit chaperon Rouge* are old favourites, now dressed up à la mode française. The book is eminently useful for beginners.

The acquisition of French pronunciation is not easy, and in many respects more difficult than that of German. (In the matter of anomalous relation between spelling and sound, English indeed remains unique and unbeaten!). The pronunciation of a language is best learnt through actual practice in conversation with the natives, but a great deal of help is rendered, both in the theoretical understanding and in the practical enunciation of sounds, by phonetic transliterations in some recognised notation. This function is fulfilled for French, in an elementary way, by *A First French Phonetic Course*, by P. A. Churchman and E. F. Hacker (published by D. C. Heath & Co.) The script used is the International Phonetic Association notation, which is by far the most accurate and scientific one for phonetic transcription. In this book there are discussions and analysis of French sounds, phonetic transcriptions of poems, prose, passages and songs, and besides, an interesting chapter on

French orthography. Nasalisation, elision and *liaison* which are characteristic features of French pronunciation and which offer peculiar difficulties to the beginner receive special treatment. French sounds like [y] in *lune*, and [ø] in *peu*, etc., are carefully differentiated and clearly explained. The book is useful not only to students who receive the help of teachers but also to those who attempt to learn French pronunciation by self effort. We heartily recommend the book to all Indian students of French.

For those Indian beginners of French who desire to acquaint themselves with French poetry in which the genius of the French race is reflected to a large extent, *French Poetry for Beginners* by A. Watson Bain (published by Messrs. Macmillan & Co., Price 1s. 6d.) is an excellent collection. The book contains selections from representative nineteenth century poets like Victor Hugo, Theophile Gautier, Lamartine and Alfred de Musset and, besides, modernised renderings of easy

selections from La Fontaine, Beranger and other older poets. The vocabulary at the end enhances the value of the book for the beginner.

If the student, having mastered the elements of French, desires to go a step higher, he will find the *Matriculation Modern French Reader* by M. A. Finch (University Tutorial Press, London, price 3s. 6d.) very serviceable. A very interesting feature of the book is that the prose passages are all taken from twentieth century authors. Well-known modern authors like Henri Barbusse and Chateaubriant are represented. Many of the prose passages deal with subjects familiar to the student of English, e.g., *Kipling's Englishmen*, *Shelley at Elton*, *Gordon at Khartoum*, etc.

The very large number of books appearing nowadays for the use of beginners in French and German should not only give a fillip to the study of these languages in schools and colleges but also enable many who have entered life to take up their study as a useful and instructive hobby.

"GENERAL" ENGLISH.

Teachers who believe in doing a thing thoroughly and not in a perfunctory manner will do well to examine Principal Martin's **ENGLISH COMPOSITION FOR HIGH SCHOOL CLASSES**.* It is the only book of its kind that deals exclusively and in a fresh and systematic manner with *continuous written composition*, a subject in which our boys are notoriously weak. Take your boys systematically through Principal Martin's "English Composition" and watch the results.

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Reviews and Notices.

A PREPARATORY ALGEBRA, BY V. BAGHUNATHA IYER, B.A., L.T. (SRINIVASA VARADACHARI & Co., MADRAS, 1927). x + 616 pp. Price Rs. 2.

This book gives an exhaustive treatment of the usual portions in Elementary Algebra prescribed for the ordinary as well as the specialised courses in Mathematics in South Indian High Schools preparing candidates for the School Leaving Certificate Examinations. It appears to be written with a view to satisfy the special needs of the Indian student and teacher. One notable feature in the contents is the multitude and variety of fairly hard and stimulating questions which ought to be a great fascination for many a diligent mathematically disposed Indian youth who is after tough mathematical problems to measure his strength against.

In the reviewer's opinion, however, the size of the book and with it the price may be reduced probably by one-fourth without any serious damage either to the contents or to the value of the book. A good historical back-ground explaining the different stages of the development of the symbolism and the subject matter of Algebra would have greatly added to the interest of the book.

On the whole, it can be confidently asserted that the author has produced a useful book which well deserves to be in the hands of every High School pupil.

THE GATEWAY TO ENGLISH, BY H. A. TREBLE AND G. H. VALLINS—PART I: FIRST STEPS IN GRAMMAR AND EXPRESSION, 2s. PART II: TREATING OF GRAMMAR AND THE SIMPLE ESSAY, 2s. 6d. PART III: THE ESSENTIALS OF FORMAL COMPOSITION, Rs. 1-14 4s. (OXFORD UNIVERSITY PRESS).

We welcome this series of three books treating of English grammar and composition. English cannot be taught in the early stages without imparting at the same time a knowledge of grammar. But this grammar has to be treated in the simplest and yet most convincing manner to pupils. The authors of the present series have shown much freshness and originality of presentation not the least of which are diagrammatic pictures, making vivid illustration. The books being intended perhaps

essentially for English children, some items like English pronunciation are not adequately treated for foreign learners. But English composition is very intelligently developed, one good feature being the giving of extracts from standard books. The Third part is calculated to satisfy the purposes of our Intermediate classes very well, chapters being devoted to the different kinds of essay writing and to paraphrasing and precis-writing. We have no doubt that great abilities and the fruit of much practical experience are in evidence in the writing of these books which all school and college libraries would do well to buy and all teachers of English would do well to profit by.

LITTLE GEM POETRY BOOKS: I, II, III AND IV, EDITED BY R. K. & M. I. R. POLKINGHORNE. (G. BELL & SONS, LTD.) Bks. I to III, 6d. each; Bk. IV, 8d.

This is an attractive series of poetical selections eminently suited to children. Great credit is due to the editors for collecting so much verse that is both simple and poetical. Most of the selections are descriptive and essentially of concrete imagery. Nature and the seasons are mostly the themes in the books, though this will place foreign children at a disadvantage. Very varied are the sources tapped for the present selections, including the well-worn poetry of the past centuries and of the present time and also translations from foreign authors. This series of cheap books is well fitted to satisfy the need for poetry for children.

TALES FROM DICKENS, SELECTED BY J. WALKER McSPADDER. (G. G. HARRAP & Co., LTD.) Pp. 186. (ALL TIME TALES).

This book, with several illustrations in it, presents selections from the two famous novels of Dickens, "David Copperfield" and "Oliver Twist." The selections, like the novels from which they are extracted, are calculated to make a great appeal to children, and kindle in them a great desire to know Dickens.

SHERIDAN: THE RIVALS, EDITED BY W. H. LOW AND A. S. COLLINS. (UNIVERSITY TUTORIAL PRESS, LTD., LONDON). Pp. 120. Price 1s. 3d.

As Sheridan is not usually annotated, the present publication will be welcome. The biographical

introduction is useful to throw light on the reflection of Sheridan in the play. Students preparing for examinations will be thankful for the analysis of the different characters which is offered also in the Introduction.

HIGH SCHOOL GEOGRAPHIES:—

- I. A COMPLETE SCHOOL GEOGRAPHY, BY E. G. R. TAYLOR, B.Sc., F.R.G.S., (IN TWO VOLUMES). VOL. I—THE WORLD, ITS PHYSICAL GEOGRAPHY, PEOPLES AND PRODUCTS. (PUBLISHED BY METHUEN & Co., 1926.) Price 5s.
- II. MACMILLAN'S PRACTICAL MODERN GEOGRAPHIES: A GEOGRAPHY OF THE WORLD, BY B. C. WALLIS, B.Sc., F.R.G.S., (PUBLISHED BY MACMILLAN & Co., 1926). Price 4s.
- III. LONGMANS' REGIONAL GEOGRAPHIES OF INDIA: THE INDIAN EMPIRE: PART IV—INDIA, BURMA AND CEYLON, BY L. DUDLEY STAMP, B.A., D.Sc., F.R.G.S., (PUBLISHED BY LONGMANS, GREEN & Co. 1926). Price Rs. 1 8 As.

Modern Geography, one of the most important subjects of the High School Curriculum, that which serves to balance the curriculum itself, synthesise the other subjects in it, and correlate the School with Life, has unfortunately lost its place in the higher forms of our High Schools, thanks to the S.S.L.C. Scheme as revised about 1916. Meantime, during this period of over a decade, this study has made tremendous strides abroad all along the line, in its aims, content and methods; and in the High School especially has become both a romance and a reality. This great progress elsewhere in what is at present a Cinderella of our school curriculum is evidenced, among other things, by the appearance abroad of a number of first-rate books—text-books and others. We cannot, of course, be oblivious to this state of affairs, especially in view of the fact that Geography has just found a footing in the Madras and Andhra Universities at least in the Intermediate course, and in view of the fact that the S.S.L.C. Reorganisation Committee has recommended a proper place for the subject in the High School. There appears to be a dawn of better things to come, and it is time we realise the situation and try to work up to the mark.

Mr. Taylor's name is familiar to every teacher and student of Geography. His brand is guarantee for quality. His *Complete School Geography* in two volumes is meant to be studied either in the class-room with a teacher or by pupils working individually according to the Dalton Plan. The first volume, which is now under review, consists of two parts. In the first, General World Geography is treated very fully and systematically, while in the second, each continent is treated regionally, in order to show the relation between physical conditions and natural products. The second volume is planned to deal with Industrial, Commercial and Political Geography, as based on the regional analysis in volume one. The book thus covers all aspects of Geography which can reasonably be expected to be mastered during the years of the High School course. It is a complete preparation for all examinations of the Matriculation standard, and for commencing first year University work.

In some parts of the book, especially the chapters on Weather and Climate, the results of recent advances in Science have been incorporated. Clearness and accuracy of details is an important feature of the work. Two chapters (VI & XXI) deal specially with the method of studying a small area in detail—the home district and a special region—a phase of geographical study, which has not hitherto received here the attention that it deserves. Besides three useful appendices giving some additional details which could not be put into the body of the book, a select bibliography of references, and 63 specially prepared maps and diagrams, very valuable hints and suggestions for the study of each of the chapters are given at the end of the book.

The one drawback, however, in the whole volume is the absence of pictorial illustrations, which is probably due to the necessity of keeping down the price within limits. Moreover, the work has been prepared wholly from the English students' point of view. But we have also to recognise that there is no market as yet for a similar book, prepared from the Indian students' point of view till the High School curriculum is altered.

Mr. B. C. Wallis is not less famous in the geographical world. His *Geography of the World*

is a second edition, after an interval of fifteen years from the first, during which period it has deservedly gone through a dozen reprints. Superficially viewed, this book seems to be similar to that of Mr. Taylor's; and falls naturally into the same two parts—General World Geography and Regional Geography of the Continents—though with special emphasis on the British Empire.

But Mr. Wallis stands for an important principle in the pedagogy of Geography, viz., the quantitative method of study, and the whole book has been planned accordingly. To quote from him:

"An ideal course in Geography would deal with the quantitative measurement and expression of the facts as to the geographical conditions under which man lives and works determined in relation to the world as a unit. This or that country produces or uses this or that proportion of a given commodity; it is not enough to know that Brazil produces coffee, or Australia mines gold; we must know that Brazil produces four-fifths of the world's coffee and Kalgoorlie Mines one-tenth of the world's gold. This book is an attempt within many limitations to realise this ideal; it represents an endeavour to obtain in the realm of geographical facts a numerical statement of our knowledge."

Hence, a special feature of the book is the inclusion of a very large number of tabular statements of statistics, in addition to the statements of main conclusions to be drawn from them; and from these statistical tables, the pupil is expected to cull some facts for himself.

Another good feature of the book is the inclusion of examination questions from various sources, which are indicated; and these, together with the summaries, are expected to serve as revision exercises.

The book is also copiously illustrated with maps, plans, diagrams, cross-sections and some typical pictures, which add considerably to its usefulness.

Mr. L. Dudley Stamp is Professor of Geography in the University of Rangoon; and has produced his *Geography of the Indian Empire* with Indian experience. The first three books of the series having been designed for use by the Middle School pupil, living in the part of India described, the

present volume forms a 'second step' extending the study of geography to the whole of India.

The general scheme, however, is similar to that of the earlier volumes. In each of the first twelve chapters, the main principles of Geography are explained, and illustrated from their application in India. Then follow chapters on each of the important Provinces and Native States, which are treated on the basis of natural regions. The later chapters of the book on Communications and Trade serve to link together what has gone before.

At the end of each chapter, stimulating questions and original exercises, often involving the intelligent use of sketch-maps, are appended. These are, of course, meant to serve as guides only, and the teacher is expected to supplement them with several others on the lines suggested. With the object of providing him with material for further practical exercises, a number of useful statistical tables are given at the end.

One important feature of the book is the very large number of sketch maps and diagrams, physical, economic and others. It is to be regretted, however, that such a useful book should be altogether devoid of pictorial illustrations.

Moreover, certain wrong or inaccurate statements require to be corrected in the next edition, e.g. on p. 28 appear the following: "But more than three-quarters of the air consists of nitrogen which is not used by plants or animals". "Temperature means amount of heat or cold" (The italics are ours).

But, barring these few slips, this is one of the very few Indian Geography books, prepared on modern lines, for use as text-books in Indian High Schools. We should like to point out to its publishers the necessity for bringing out vernacular adaptations of such a good book, especially in view of the fact that the teaching of non-language subjects through the medium of the mother-tongue has received official sanction, and is being increasingly followed.

A HISTORY OF INDIA, BY FATHER GEUSE. (MACMILLAN & Co., 1926).

Father Geuse has done a great service to the students of the Bombay High Schools by the publi-

cation of this history. Based on the history syllabus of the Bombay S. S. L. C. course, the book surveys the entire history of India from the earliest times up to the present day. It is divided into five parts, each part dealing with a distinct period of Indian history. The style throughout is simple and elegant. The paragraph headlines are catching and highly suggestive. At the end of each topic there is a neat summary to which is added a number of questions that should prove useful to the students, though from the view-point of the teacher, the latter may be omitted. The various topics dealt with are generally free from the bias which European writers import in writing similar books. The views of Indian authorities on the subject though not quoted are presumably accepted and freely incorporated in the treatment of various topics especially in the life history of Sivaji and other Indian heroes. The cut and dry method of instituting comparisons among

the great figures of Indian history such as Akbar, Sivaji and Aurangzeb may perhaps be avoided as impressions once formed in the lower classes are difficult to be removed even by higher studies later on.

The two important features of the book are (1) a fair and impartial narrative of contemporary politics, and (2) an appendix which gives a full outline of Indian administration in all its branches, Imperial, Provincial and Local. In this respect Father Gense has most amiably deviated from the usual way of writing Indian history and it is to be hoped that authors in this part of India will profitably copy his example. If the book at first sight appears to be a sort of catechism, a careful reading of the contents will dispel any such notion. It is indeed a good text-book for the Bombay students for whom it is ostensibly intended.

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OPINION.

Mercuriale Miscellany, April 1926:—The enterprising firm of Messrs. Srinivasa Varadachari and Co., Mount Road, Madras, have sent us a copy of Commercial Arithmetic for S. S. L. C. students which they have published. The book is a very useful addition to the existing literature on the subject and bids fair to be regarded as a standard text-book on the subject on this side. Needless to add that the book being written with a Commercial bias it should prove invaluable to all youths aspiring after commercial or business career. We congratulate the author, Mr. T. V. Subramania Iyer, and the Publishers, for the neatly got-up little volume before us. D. Cr. 8vo. about 200 pp. Price Rs. 1-4-0.

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Kennedy, Smith: Dictionary of anonymous and pseudonymous English literature.
Sayers: Manual of classification for librarians.
Library extension.
Bishop: Backs of books.
Hitchler: Cataloguing for small libraries.

A Science (Genl)

Year book of scientific and learned societies of Gr. Britain, 1925-26.

B. Mathematics.

Beltrami: Opere matematiche.
Fabini: Geometria proiettiva differenziale.
Fortgeschritte der mathematik, B. 1—35, 41—46.
6th Scandinavian Mathematical Congress.
Ball: Popular guide to heavens.
Bridgman: Dimensional analysis.
Young: Theory of integration.
Campbell: Differential geometry.
Day: Statistical analysis.
Eddington: Internal constitution of the stars.
Forbes: Wonder and glory of the stars.
Kent and Mande: Compound interest and annuity tables.
Littlewood: Elements of real functions.
Mair: Fourfold geometry.
Moreux: Astronomy to-day.
Proctor: Romance of comets.
Larrett: Story of mathematics.
Walmsley: Mathematical analysis.
Eckhart: Konstruktive abbildungsverfahren.
Haafte: Reziprocentafel.
Juvet: Calcul tensoriel.
Phillips: Splendour of the heavens.
Schlesinger: Lebesguesche integrale.
Weatherburn: Differential geometry.
Woods: Advanced calculus.
Klein: Hoher geometrie.
" Entwicklung der mathematik.
Hayashi: Hyperbelfunktionen.
Gerstenbrandt: Die graphische integration.
Rendiconti del circolo matematico, T. 1—45.
Ignatowsky: Vektor analysis.

C Physics.

Bucher: Vacuum tubes in wireless communication.

Handbuch der radiologie, Bands 1—6.

Cat. of optical and gen. scientific instruments.

Eddington: Theory of relativity.

Sommerfeld: Three lectures on atomic physics.

Snow: Matter and gravity.

Shearcroft: Story of the atom.

" Story of electricity.

Tammann: States of aggregation.

Thomson: Applied aerodynamics.

Todhunter: History of elasticity.

Townsend: Electricity in gases.

" Motion of electrons in gases.

Walker: Theory and use of a physical balance.

Handbuch der physik, Bands 1—24.

Huygens: Treatise on lights.

Kaye: High vacua.

Kemp: Alternating current electrical engineering.

Langworthy: Reflections on structure of atom.

Lorentz: Lectures on theoretical physics, Vol. I.

MacDougall: Thermodynamics and chemistry.

Magnuson: Alternating currents.

Moyer and Wostrel: Practical radio.

Eason: Prevention, vibration and noise.

Peirce: Mathematical and physical papers, 1903—13.

Price: Atomic form.

Pritchard: Broadcast reception.

Sabine: Collected papers on acoustics.

Schlick: Space and time in contemporary physics.

Scott-Taggart: Thermionic tubes.

Aston: Structural units of material universe.

Baker: Wireless pictures and television.

Balbi: Loud speakers.

Bedford: Practical physics.

Birtwistle: Quantum theory of atom.

Birkhoff: Origin, nature and influence of relativity.

" Relativity and modern physics.

Blight: Evolution and development of quantum theory.

Cajori: History of physics.

Luckiesh: Artificial light.

Coursey: Telephony without wires.

Dobson, and others: Photographic photometry.

Dover: Theory and practice of alternating currents.

Edwards: Broadcasting for everyone.

Einstein : Brownian movement.
 Fleming : Electrons, electric waves and wireless telephony.
 " Thermionic valve and its developments.
 " Fifty years of electricity.
 Gavett : First course in statistical method.
 Gay : Treatise on magnetism and electricity.
 Griffiths : Measuring temperature.
 Henderson and others : Theory of relativity.
 Hevesy : Radio-activity.
 Heyl : Fundamental concepts of physics.
 Hinshelwood : Thermodynamics for chemistry students.
 Hodgson : History of aeronautics in Gr. Britain.
 Hoyle : Standard tables and equations in radio-telegraphy.

D. Engineering.

Bairistow : Applied aerodynamics.
 Ketchum : Design of highway bridges.
 Taggart : Cotton spinning.
 Tompkins : Marine engineering.
 Waddell : Bridge engineering.
 Weisbach : Mechanics of hoisting machinery.

E. Chemistry.

Journal of Biological chemistry, V. 1—65.
 Zeitschrift für analytische chemie, B. 1—46, 50—64.
 Zeitschrift für elektro-chemie, B. 1—13, 17—30.

H. Geology.

Liesegang : Die Achate.
 Eitel : Physikalisch-chemische mineralogie.
 Ambross : Angewandten geophyik.

I. Botany.

Baker : Florida wild flowers.
 Ballard : Vegetable histology.
 Bews : Plant forms and their evolution in South Africa.
 Bolus : Icones orchidearum austro-Africanarum.
 Bose : Nervous mechanism of plants.
 Bower : The ferns.
 Cooke : Illustrations of British fungi.
 Cook : Diseases of tropical plants.
 Duggar : Fungous diseases of plants.
 Davy : Flowering plants and ferns of Transvaal.
 Guppy : Plants, seeds, and currents in West India.
 Hampton : Scent of flowers and leaves.
 Harshberger : Micology and plant pathology.
 Harvey-Gibson : History of botany.
 Heald : Plant diseases.
 Hutcheson : Families of flowering plants.
 Massee : Diseases of cultivated plants and trees.
 Oliver and others : Flora of tropical Africa, 8 Vols.

Ridley : Flora of Malay peninsula.
 Rosenvinge : Botany of Iceland.
 Ames : Schedulæ orchidearum, V. 1—5
 Stevens : Diseases of economic plants.
 Trimen : Flora of Ceylon.
 The Bradley Bibliography.

Weaver : Root development of field crops.

J. Agriculture.

Review of agricultural operations in India, 1925-1926
 Bailly : Principles of vegetable gardening.

K. Zoology.

Buckton : Monographs of British aphides.
 Fauna of British India.

L. Medicine.

Stanton : Malayan culicidae.
 Buchanan : Spirochaetal jaundice.
 Forbes : Prevention of diphtheria.
 Raman : Kala-Azar.

N. Fine Arts.

Natyasastra (Gaekwad's Oriental Series).

Q. Religion.

Further dialogues of Buddha, Pt. II.
 Samantapasadika.

R. Philosophy.

Strass : Indische philosophie.
 McCrea : Humane movement.

S. Psychology.

Niemeyer : Children and childhood.
 Stern : Psychology of early childhood.
 Seham and Seham : The tired child.
 Book : Intelligence of high school seniors.
 Shaw : Intelligence and training of school children.
 Dearborn : Series of form board and performance tests of intelligence.
 Hopkins : Intelligence of continuation-school children.
 Wentworth : Individual differences in intelligence of school children.
 Waters : Youth in conflict.

T. Education.

Cook : The play way.
 Learned : A school system as an educational laboratory.
 Judd : Scientific study of education.
 Pearson : The vitalized school.
 Bode : Fundamentals of education.
 McCall : How to experiment in education.
 Clarke : Essays in the politics of education.
 Horne : Philosophy of education.
 Bugg : Statistical methods applied to education.
 Gubberley : Study of education and teaching.
 Jones : Four essentials of education.
 Ashby : Rural education.
 Freeland : Modern elementary school practice.
 Hall-Quest : Supervised study in elementary school.

Foght : American rural school.
 Moore : Minimum course of study.
 De Garmo : Principles of secondary education.
 Morrison : Practice of teaching in the secondary school.
 Drury : School-mastering.

Draper : University extension.
 McKeever : Industrial training of the girl.
 " Training the girl.
 Goodsell : Education of women.
 Montessori : The Advanced Montessori method.
 McMurtry : Teaching by projects.
 Educating for responsibility.
 Carson : Essays on mathematical education.
 Smith : Teaching of arithmetic.
 Elford : School gardening.
 Hayward : Lesson in appreciation.
 Signett : Books and reading.
 Peppard : The correction of speech defects.
 Horne : Story-telling, questioning and studying.
 Branom : Teaching of geography.
 " Measurement of achievement in geography.
 Williams : Graphic methods in education.
 Strayer : Education administration.
 Ikin : Organization and administration of educational department.
 Wright : Bridging the gap.
 Ballou : Scales for the measurement of English compositions.
 Holmes : Measurements in elementary subjects.
 Hopkins : Marking system of the college exam. board.
 Wilson : How to measure.
 Gerry : Test of high school chemistry.
 Dearborn : Standard educational tests.
 Briggs : Curriculum problems.
 Pearson : Relationship of health to physical and psychological characters in school children.
 Williams : Organization and administration of physical education.
 Wood : Source book in health and physical education.
 Kerr : Fundamentals of school health.
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 Freeland : Improvement of teaching.
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 King : Social aspects of education.
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Peters : Foundations of educational sociology.
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 Smith : Nation's schools.
 Cooper : Two views of education.
 Woodward : Vitorino da Feltre.
 Stimson : Vocational agricultural education.
 Link : Education and industry.
 Snedden : Vocational education.
 Brewer : Mental measurement.
 McKeever : Industrial training of the boy.
 Egerton : Vocational guidance.
 Eaton : Education and vocations.
 Anderson : Industrial school education.
 Dobbs : Primary hand-work.
 Dewey : Dalton laboratory plan.
 Lynch : Individual work and Dalton plan.
 Davis : Technique of teaching.
 O'Brien : Silent reading.
 Holz : Teaching geography.
 Tryon : Teaching of history.
 Leach : Educational charters and documents.
 Bosanquet : Education of the young.
 Barnard : French tradition in education.
 Turnbull : Educational theory of J. G. Fichte.
 Adamson : Individual and environment.
 Horne : Idealism in education.
 Drury : Back bone.
 Martin : Formative factors in character.

V. History.

Jusserand : Writing of history.
 Hamby : Origins of education among primitive peoples.
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The Educational Review

Sir Harcourt Butler has always been a great friend of Indian education and he has not belied expectations in Burma. Pointing out the dangers of a University's having to rely on the annual votes of the legislature for its financial maintenance, he started a campaign the other day for the collection of a permanent endowment fund for the Rangoon University. The campaign has been pushed forward with his characteristic energy and the fund is growing rapidly by lakhs, all classes of the population contributing to make it a great success. The latest however is a magnificent donation of £ 100,000 by the Burma Oil Company for the starting of a College of Mining Engineering under the auspices of the University. It is true we have a College of Mining at Dhanbad in Bihar and Orissa inaugurated by the Government of India and the subject is also taught at the Benares Hindu University on a smaller scale, but the mining needs of Burma are so extensive that a separate college for it is more than justified. The Rangoon University has made rapid strides, though it has been in existence only for a few years, and it will probably soon outstrip the other Universities in India in equipment and staff, unless special efforts are made by the latter to improve on their present position.

Presiding over the last annual meeting of the Association for the Advancement of the Scientific and Industrial Education of Indians,

Industrial and Technical Education.

the other day in Calcutta, Sir Devaprasad Sarvadhicari drew attention to the good work done by the institution in the past and asked for wider public support. The following is a brief summary of the achievements of the Association:—

We have now 25 D.Sc.'s and Ph. D.'s of the greatest Universities of Great Britain, Germany, France, America and Japan, and 60 M.Sc.'s and 100 B.Sc.'s. About 400 of our boys have returned, more than 350 of them are well employed. They occupy the professorial chairs of the principal colleges and technical institutes of the country. They have started about 20 new industries. One of them is a member of the Agricultural Commission. The Agricultural and Sericultural departments in the higher offices are mostly manned by our students. Several cotton-mills, sugar-mills, tanneries, porcelain-works, ink-factories, biscuit-factories, fruit-preserving works, enamel-works, water-works, iron-works, electrical-works, hydro-electric-works, railways, higher grades of the Engineering Department and the Forest Department are manned by our boys. Our boys are making water-proofs, combs, matches, and other articles of use. We have successful mining experts and paper manufacturing works. We have also got chartered accountants, incorporated accountants and bank managers. Our students trained in France and Germany are making serums. Some of our students are in the Indian Civil Service, the Indian Medical Service and the Bar. Some are successful dentists and doctors.

The National Fund and Industrial Association of Madras was started with similar aims, but we are sorry, it has no

received the financial support from the public necessary for discharging its responsibilities.

We congratulate the Inter-University Board, India, on the excellent Hand-book of Indian Universities* it has produced. It is a valuable compendium of information relating to all the sixteen Universities in India. The volume contains details about the staff, courses of studies, examinations, facilities for research, etc., and should be useful not merely to the professed student, but also to all those interested in higher education in India. The details relating to each University are preceded by a short historical sketch of the University. There are also chapters on the Indian Institute of Science and the Inter-University Board, under the authority of which latter body, the Hand-book is issued. It is gratifying to know that the Government of India is making a special annual grant of Rs.1,000 for the preparation of the volume. We have no doubt the Hand-book supplies a long-felt want and is striking evidence of the usefulness of such a joint organisation of the Universities in India as the Inter-University Board. We trust the Hand-book will be reprinted from year to year and kept up-to-date, so as to keep its usefulness unimpaired.

The teaching profession offers admirable facilities, not merely for the discharge of the ordinary duties

of teaching, but also for many other activities useful to the community particularly in rural areas. The village school-master should be a centre of enlightenment and usefulness and every rural area should be all the better for the presence of members of this fraternity. The Government of the Bombay Presidency has however found a new means for increasing the usefulness of the village school-master, by making him an instrument of medical relief. Three years ago a scheme towards this end was inaugurated, in accordance with which thirty primary school teachers were given training in elementary medicine and surgery on First Aid lines, and were then established in villages of about 1,000 to 1,500 inhabitants in the districts of Poona, Bijapur, Sholapur and Dharwar, where in addition to their school duties, they have been giving help to villagers in minor ailments, sending on cases which they are unable to handle, to the nearest regular dispensary or hospital. The Surgeon-General has now reported on the scheme. He states that on the testimony of both officials and non-officials, its working has been successful. The teachers have dealt with, during the sixteen months embraced by the report, 22,972 cases in Poona, 54,799 cases in Bijapur, 19,573 cases in Sholapur and 23,897 cases in Dharwar. Here is a new sphere of usefulness for the village school-master whose full possibilities may well be explored and taken further advantage by all parts of India. The ideal system is of course the inauguration of a scheme of medical relief by the

* The Bangalore Press, Bangalore. (Rs. 2).

establishment of a number of rural dispensaries in charge of qualified medical practitioners. But the vast area of India and the reluctance of qualified medical practitioners to settle down in rural parts render the arrangement difficult and pending the extensive adoption of such a scheme, there is no reason why this experiment should not be tried in other Presidencies as well.

Writing in appreciation of the "University Spirit" of America in his new book, *The University Spirit. American Soundings*, Mr. St. Leo Strachey, the well-known English journalist and author, says:

"America has shown valour as well as wisdom in the way in which she has approached her wholesale founding of Universities. I admire more than I know how to say the courage displayed in refusing to be put off by any pedantic punctilios—such as "Go slow," "Wait a little," or any other timid plea for moderation and delay.

I hold in high respect the maxim of Mr. Roosevelt. Convinced that it was the duty of the United States to build the Panama Canal, he refused to take more time for deliberation or for reconsidering this or that engineering difficulty, but determined that he would "make the dirt fly" in the shortest possible time. In the same way, the founders of Universities have not greatly troubled about the best type of University in the abstract, but have made the dirt of learning fly.

The essential thing is to get the structure up. Later there will be plenty of time to consider how to decorate and furnish it. That, unconsciously if not designedly, has been the attitude Frankly, I admire American optimism and audacity. The determination to get things done and

not to be always faltering and "havering" about whether the very best possible plan has been selected awakes in me the strongest sympathy. A policy of trial and error may be just as fruitful of good results in the University sphere of action as in the laboratory.

The first thing, if I may change my metaphor, is to build your picture-gallery. Then, if the critics tell you later that you have put bad paintings or bad busts into it, listen to them, and if they make their case good, throw out the bad things and get better. But do not, for fear of having an inferior collection to start with, determine that you will have no gallery at all. That is not the way to get illumination, or to cultivate either the arts or the sciences. That was not the spirit of Athens or of Florence."

While appreciating the points underlying these remarks of Mr. St. Leo Strachey, it is necessary to utter a word of warning against the impulse evident in many parts of India to-day, to inaugurate new Universities, merely by setting up additional examining machines at various centres. The resources of America are so rich that it may be generally assumed that sufficient funds will be forthcoming for any good cause, but conditions are unfortunately different in India and many Universities which have been started already are struggling for support. Nothing is more demoralising and detrimental to the work of a University than the continual feeling of want on the part of the workers concerned. The observations of Mr. St. Leo Strachey must therefore be understood with serious modifications in their application to Indian conditions.

We congratulate the Maharajah of Pithapuram on his nomination as the Pro-Chancellor of the Andhra University in succession to the late lamented Maharajah of Bobbili. If the appointment is to go to one of the landed magnates of the Telugu country, no better choice could have been made. Endowed with intelligence and character and having enjoyed the benefits of high-class education, the Maharajah of Pithapuram is pre-eminently fitted for occupying such an office of academic importance. The Maharajah has been an enthusiastic patron of Telugu literature and we have no doubt that under his guidance, the Andhra University will be able to achieve distinction in the direction of its further development. Easily accessible to people and free from aristocratic snobbishness, he has many of the qualities necessary for success in his office.

We indicated in these columns some time back that the Government of Bengal was contemplating important legislation for the further spread of Primary Education in Bengal. The scheme has progressed sufficiently for the introduction of a legislative measure at the ensuing session of the Provincial Council. The scheme will involve large increased expenditure for which it will be necessary to levy fresh taxation, which may be five pies in the rupee, on the annual value of lands and net profits of mines and

quarries. The Bill will relate in the first instance to rural areas and there will be a large increase in the number of primary schools. A radical alteration will be made in the training of teachers. A Primary Education Fund will be created into which all proceeds of the cess will be paid along with Government grants. The School Boards which will control primary education in each district will be non-official bodies with an official element to secure administrative experience. The Bill will also include a proposal for religious instruction in primary schools. The fortunes of this new piece of legislation will be watched with interest all over the country and we trust it will be followed in more than one province elsewhere.

In the course of his recent Convocation Address at the Poona Women's University, Sir Sankaran Nair put in a strong plea for the use of the vernaculars as the media of instruction, particularly for girls. He said:

"In one sense language is no doubt only a vehicle of thought, but there is little doubt, it also tends to fashion your minds and, in some ways, regulate and form your thoughts. Your education, therefore, for its results to be permanent and effective, should be imparted in your own language.

"There is also another reason. You have got a sacred literature of your own. That literature will form a part of yourself if your education itself is in that language.

"Again, the life of Shivaaji and other heroes is an epic. It is a national possession. It will be long time before you can dispense with his language and retain love and veneration which his

name inspires, both among his friends and foes. But there is also another aspect to this question both for your spiritual growth and for your material prosperity. Your leaders have to learn the English language and its literature. It is possible that a time may come when there will be materials in your own language and men and women will rise whose education and knowledge is as far advanced as that of Professors of Europe and you may be able to dispense with the foreign literature altogether, but that day is distant yet."

Sir Sankaran's sympathies with the woman movement are well-known. He appealed to Indian women on the occasion to take a lesson from the example of their sisters abroad and see that the education of a right kind was given to their less fortunate sisters in India, so that their enfranchisement and advancement might be secured. He assured his fair audience that they would encounter no obstruction from men in India in their endeavour to advance themselves.

His Excellency Lord Goschen gave a very sympathetic reply the other day to the deputation from the Andhra University which waited upon him with four requests on behalf of the University. The deputation was anxious that Bezwada should be made an additional University centre. His Excellency promised to obtain the view of the University authorities in the matter and get an amendment to the University Act into the Legislative Council. With regard to the lack of buildings, the assurance was given that provision will be made in the Supplementary Budget for a grant of

Rs. 60,000 for the purpose and as soon as the Council sanctioned it, orders will issue to the Engineering Department to proceed with the work of construction. His Excellency thought that it was not possible at the present stage to hand over the administration of the Government colleges in the Andhra districts to the charge of the University and the consummation was only to be looked upon as an ideal. We are constrained to agree with this opinion, even at the risk of seeming to appear not sufficiently appreciative of University ideals. His Excellency promised to convey to the Viceroy their request to lay the foundation-stone of the buildings of the Andhra University in the course of his ensuing visit to Southern India. We hope the deputation marks a real stage of development in the history of the University. We are afraid, it is a University only in name at present and even the name is hardly known in educational circles outside the area of the Andhra districts of the Madras Presidency and their neighbourhood.

The following summary of a report of the Syndicate of the Bombay University, containing recommendations to the Senate on the question of the proper physical training of students at the colleges of the University, will be read with much interest:—

(1) Compulsory physical training shall at the outset be given to all students in the affiliated colleges during the first two years of undergraduate study.

(2) (a) All colleges affiliated to the University, excepting those for post-graduate studies, shall conduct a medical examination of students admitted to the college.

(b) The examination must be conducted by a qualified Medical graduate appointed for the purpose by the college authorities.

(c) After due examination, the examiner shall record the height, weight, chest and waist measurements and the defects of the body, sight and hearing of each student, in a form to be approved of by the University, and a copy of such record shall be preserved in the college and another copy forwarded to the parent or guardian of each student.

(d) The physical instructor of the college, whenever possible, shall be present at the medical examination.

(e) A student transferring himself from one college to another must present his medical record with his transfer certificate.

(3) Students who are certified by their medical record as normal shall be put through a course of physical training twice a week.

(4) Students shown by their record as requiring a special form of training shall be grouped according to their physical needs into classes and shall be put through special exercises at least twice a week, in groups not exceeding 20. The colleges shall submit a schedule of the proposed exercise for each defect to the University for approval.

(5) (a) The physical training of a normal student shall include set drill and minor games and, so far as possible, shall be conducted in the evening.

(b) The major games, e.g., football, tennis, cricket, hockey, service in the University Training Corps of Athletics, can be taken up by the stu-

dents at their option, and the students regularly attending such optionals will be exempted from compulsory physical training.

(c) Every college, at least once a term, shall test the physical progress of each student by some kind of physical efficiency test conducted by its physical instructor. In case of defectives such tests shall be conducted at such regular intervals as the medical authorities may in each case consider necessary.

(6) No student shall be promoted from the First Year Class to the Intermediate Class or be admitted to the Intermediate Arts or Science Examination of the University unless he is certified by the Principal of his College to have completed satisfactorily a course of physical training in accordance with the principles of physical training laid down by the University.

(7) All affiliated colleges, except those for post-graduate studies, shall employ a qualified physical instructor who shall devote himself entirely to physical training of the students.

(8) A physical instructor shall be deemed by the University as qualified if he shall either—

(a) have received a Diploma granted by the School of Physical Training at Madras (1 year's course), or

(b) have undergone a special six months' course organised by the University.

(9) The University shall appoint a University Director of Physical Training, who will—

(a) direct the course of training for physical instructors;

(b) visit the affiliated colleges and direct the regular course of instruction given by the colleges and give a few lectures on physical fitness, diet, personal and social hygiene (sex-hygiene and venereal diseases).

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The value of Child Study is first twofold, from the point of view of theoretical psychology, and second of education. Education along with psychology has much to learn from the science of biology which suggests to both of these sciences the unit for study, viz., a reaction which is a response to a stimulus. The mental life ought to be viewed as is the physical from this point of view. Further, biological science is showing the usefulness both as to method and content of the observation of development. The study of child-nature is in accord with the genetic method which characterises all the biological sciences. Educationally we have more to do with children than with adults in our schools and so from the practical point of view also the more that we can learn about the natures of educands the better for our work. Miss Gordon's book is thus a real contribution to our literature for it considers these questions with special reference to conditions in South India.

One of the most important of modern developments in this science is that made through the observation of individual differences. Although education is a social process and children are social in nature, yet we cannot deal with them too much in groups without doing great injustice to matters in which they are unlike. Studies made in Europe and America have their value for Indian teachers, but observations made in India, as Miss Gordon's have been, are of great value in enabling us to ascertain the similarities and differences with children of other countries, and the differences among groups and individuals here. Miss Gordon has not only given the result of her own observations but—what is even more important—she has shown teachers and others how they may observe for themselves.

The book surveys the more important problems connected with the study of child-nature. It deals with the stage of child development, with the processes of sense-perception, with play, hand-work, and fatigue, with exceptional children, both sub-normal and supra-normal, with measurements of intelligence, and with the application of the Kindergarten system to the Indian system. It is one of the books which the Academic Council on the recommendation of the Board of Studies in Teaching has declared as suitable for candidates for the L. T. degree. We hope that it may have a wide circulation as its influence is sure to be for good.

Education (Allahabad), March 1925.

The distinguished author of the book under review is one of the few enthusiasts in India who have taken to a systematic study of child-nature. The book embodies the results of close study by the author, not merely of the existing literature on the subject, but of the actual mental and physical growths of children, as witnessed by her in several schools in Britain and India where she has had the opportunity to work. Within a brief space of 300 pages, the author has contrived, in her plain, matter of fact, and at the same time, engaging style, to elucidate the various topics connected with child life such as the sense perception, play, the service of Hand in Mental Development, fatigue, exceptional children, measurement of intelligence and the Kindergarten system; touching the various theories on these topics and supplementing them by her own views based on personal study and investigation. We would especially commend to our readers the beautiful and inspiring chapter on the Kindergarten system in which without going into technical detail, the author has surveyed the basic principles of the system and pleaded in accordance with these principles for the Indianisation of Indian education. We are sure that this little book will prove an excellent handbook for teachers as well as parents and others interested in the subject and kindle in them a deeper interest therein. It has been already recommended by the Academic Council of the Madras University as a suitable text-book for the students appearing for the L. T. Examination and we hope that other Universities will soon follow suit. We congratulate both the author and the publishers on this valuable publication and recommend every teacher to secure a copy thereof.

XXXIII—d

The Madras Christian College Magazine, January 1926.

The study of child-nature is exceedingly important for both of the sciences of Psychology and Education. Its importance for Psychology is from the genetic point of view. In the child one is able to observe in simpler forms many of the processes at work which in adult experience become so complex as to make them difficult of analysis. Its importance for Education is too obvious to need extended notice, and yet there are some who are so short-sighted as to neglect it. Here in South India there are a great number of schools in charge of teachers who do not know the elementary facts about child-nature. But with the progress of education the time will surely come when it will be considered as dangerous to employ a teacher who is ignorant of child-nature as it is to employ a man for a physician who knows nothing of anatomy and physiology. Such a book as that which Miss Gordon has written will serve a useful purpose in hastening that day by putting teachers in possession of a primer which contains the fundamentals of the subject in a readable style. It is the type of book which we would like to see translated into our South Indian vernaculars, because it not only includes the principles of the science, but states them with special reference to the needs of Indian teachers.

A personality is the outcome of forces which are both hereditary and environmental so that child study must take account of both sets of factors. Much more is to be gained by teachers through the study of children for themselves than the mere perusal of books on the subject, however authoritative they may be. The trouble with so many students of other things as well as of child-nature is the evident desire to be spoon-fed. They desire to get their information at second-hand rather than take the trouble to study for themselves. In many instances teachers have not the technique necessary to observe intelligently. Very valuable, then, is Miss Gordon's chapter on 'How to Study a Child,' particularly for those who are beginners in child study, and it is a matter of vital concern as much for the parent as for the teacher.

Certain subjects have been especially studied recently by educationists, and Miss Gordon gives useful accounts of the results of these studies. One chapter is devoted to the place of play in child life and in the educative process. It is a wholesome corrective for the old fashioned idea that play is a superfluity. The author brings out some of the most useful services which are rendered by play, for play has direct educative value, assisting in the training of the judging and other mental processes, as well as in the spirit of fair-play and other moral qualities. The play-ground affords a splendid type of voluntary democratic organisation. Another chapter is devoted to 'The Services of the Hand in Mental Development.' Sometimes the school in emphasising the development of the mental processes has tended to neglect the fact that intelligence is sometimes motor, and that these two factors, the mental and motor, are closely related to one another. The questions of 'Exceptional Children' and 'The Measurement of Intelligence' are closely related, since it is through the latter that we get our most accurate knowledge of the former. A final chapter deals with a question on which Miss Gordon is surely competent to speak, 'The Kindergarten System and Its Application to Indian Children.' Altogether she has succeeded in writing a most useful little book, and we hope that it may have a good circulation among teachers and parents who cannot but profit by what she has written on the nature of children and how they should be educated.

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Printed and published by Srinivasa Varadachari & Co., No. 4, Mount Road, Madras—30.7.1927.