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MARCH 1929.]

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(Ft. St. George Gazette, 24th July 1923, page 668).

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III FORM.

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இஃது கும்பகோணம் கவர்ன்மெண்டு காலேஜு பரதம ஆசிரியர்முத்தராவ்கடார் P.V. சேஷு அய்யர், B.A., L.T. அவர்களாலும், சென்னை பாசனமயம்மன் கலாசாலை ஹென்ரிக்ஸ் பரதம ஆசிரியர்

V. வேங்கடசுப்பையா, B.A., I.T. அவர்களும் ஆங்கிலத்தில் இயற்றப்பெற்ற

Elementary Mathematics, Part I **தமிழ் மொழி** *Tamil*

மொழி பெயர்ப்பாசிரியர் :

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சைதாப்பேட்டை டீசர்ஸ் காலேஜ் கணினிப்போதகாசிரியர் S. பாலகிருஷ்ண அய்யர், B.A., L.T., அவர்களுடைய முன்னுரைமூலம் உதயது.

Approved as a Text-Book suitable for School use.

vide *Fort St. George Gazette*. Part I-B, p. 545, dated 1-11-27.

(முதல் பாகம்)

பொருளடக்கம்.

I. எண் மாண்பும் எண் துரிப்பும் :—என்கன் ; இலக்கணால் எண்ணின் குறித்தல் ; என்கனின் பய மதிப்பும் ஸ்தான மதிப்பும் ; கோமன் வழி. II. கோடுகளும் புள்ளிகளும் நீள அளவையும் :—கூறு ; ஸ்பென்சன் ; கோடுகள் ; புள்ளிகள் ; கோடுகளின் வகைகளும் கோடுகளைப் பரீட்சிக்கும் விதமும் ; புள்ளிகள் குறித்தலும் கோடுகள் இழுத்தலும் ; கீள அளவு ; டிவைவர்களின் உபபாகம் ; எண்ணை கீளத்தால் குறித்தல். III. கூட்டல் :—கூட்டின் 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 எண்ணைக் கொண்டும் பெருக்கல் ; பெருக்கலைக் குறக்கு வழிகள். V. வகுத்தல் :—வகுத்தலைப் படத்தில் காட்டுதல் ; ஒரு ஸ்தானத்தால் வகுத்தல் ; பாக்டர்களால் வகுத்தல் ; 10, 100 முதலியவைகளால் வகுத்தல் ; கீள வகுத்தல் ; வகுத்தலின் இன்னொரு அர்த்தம், சில பெருக்கல் வகுத்தல் விதிகள் ; பெருக்கல் வகுத்தலில் சில குறக்கு வழிகள் ; ஒன்பதுக்கொ ட்குதல். VI. பலவகை வெண்கள் :—அளவை வாய்ப்பாடுகள் : எளைய அளவுகள் ; கீறை அளவுகள் ; சீய அளவு ; படித்தல் அளவு ; கால் அளவு ; அமித அளவு ; எண்ணிக்கை அளவு ; இனமாற்றாதல் ; பலவின வெண் கூட்டல் ; கழித்தல் ; பலவினவெண் பெருக்கல் ; பலவின வெண் வகுத்தல். VII. கோணங்கூறும் அடிநாள் அளவும் :—திசை, திசைமாற்றம் ; கோணம், கோணங்களை ஒப்பிட்டுப் பார்த்தல் ; கோ கோணம் ; சதுரங்களும் செவ்வகங்களும் ; வட்டங்கள் ; கோணங்களின் அளவு ; கோணங்களின் வகைகள் ; ப்ரொட்டாக்டரைக் கொண்டு கோணங்களை வரைதல் ; ஒரு புள்ளியிடத்தில் உள்ள கோணங்கள். VIII. டெனிமீட்டரி :—டெனிமீட்டரின் அர்த்தம் ; டெனிமீட் குறிப்பில் ஸ்தான மதிப்பு ; இரண்டாவது டெனிமீட் ஸ்தானம் ; டெனிமீட் குறிப்பு பொது விவரம் ; ஒரு டெனிமீட் ஸ்தானமுள்ள எண்கள் ; டெனிமீட் கூட்டல் ; டெனிமீட் கழித்தல் ; எந்த எண்ணையும் கழித்தல் ; 10, 100 முதலியவைகளால் பெருக்கல் ; ஒரு ஸ்தானமுள்ள முழு எண்ணால் பெருக்கல் ; ஒரு ஸ்தானமுள்ள முழு எண்ணால் வகுத்தல் ; பல ஸ்தான முழு எண்களால் பெருக்கல் ; பல ஸ்தான முழு எண்களால் வகுத்தல். 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 படத்தாற் காட்டல் ; உ. பொ. அ. பொது வழி. X. சதுரமான பின்னங்கள் :—பலவின அளவுகளின் பின்னங்கள் ; ஒரு கான்கரீட் அளவை இன்னொரு கான்கரீட் அளவின் பின்னமாகச் சொல்லுதல் ; சமமான பின்னங்கள் ; சமமான பின்னங்களைப் படத்தாற் காட்டுதல் ; பின்னங்களின் கூத்துதல் ; தாழ்ந்த

உறப்புடன்; 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 காலுமினே பர் உள்எழுபடி மாற்றல்; பின்னங்களைக் கூடுதல். 1X. வாடிக்கை முறை.—புலமாதிக் கணக்குகள். பட்டியலாகக் கொடுக்கப்பட்டன. விவரங்கள்.

முதல் பாகம் 5-வது வகுப்புக்கும் 1-வது பாரத்திற்கும், கிரௌன் 500 பக்கங்கள், விலை அண்டு 12.

Approved as a Text-Book suitable for School use,

vide *Fort St. George Gazette*, Part I-B, p. 546, dated 1-11-27.

(இரண்டாம் பாகம்)

பொருளடக்கம்.

பட்டைசக் கேள்விகள். I. டெஸிமல்களின் பெருக்கலும் வறுத்தலும் : ஒரு தான டெஸிமல் எண்ணல் பெருக்கல் ; சுமாரான பரிசோதனை ; எந்த டெஸிமல் எண்ணலும் பெருக்கல் ; டெஸிமல்களால் வருத்தல் ; சுமாராய்ச் சொல்வல் ; சாதாரண பின்னங்களை டெஸிமல்களாக மாற்றல் ; டெஸிமல்களை சாதாரண பின்னங்களாக மாற்றல். II. சாகர், ரோஷியோ முதலானவை : சாகரி ; ரோஷியோ ; மாறாத ரோஷியோ ; ரோஷியோவின் உபயோகங்கள் ; பரபோர்ஷன் ; லாப கஷ்டம் ; வருமான வரி ; கடன் மிகுதல். III. பரப்பளவு : பரப்பளவு ; ரெக்டாங்கிள் ; இங்கிலிஷ் பரப்பளவுகளும் ப்ரொஞ்சு பரப்பளவுகளும் ; பரப்பளவு வாய்ப்பாடுகள் ; மீளான் வரைதல், அதாவது அமைப்புருவம் வரைதல் ; தரையின் பரப்பளவும் நாற்சவர்களின் பரப்பளவும் ; கட்டக் காதித்தின் உபயோகம். IV. பொது எண் கணக்கு -சமீகாணங்கள் : அங்க கணிதமும் பீஜு கணிதமும் ; சில பெயர் வினாக்கங்கள் ; சமீகாணங்கள் ; இன அங்கங்கள் ; அடைப்புக் குறிகள் கீக்குதல். V. முக்கோணங்கள் : டிவயிற் பக்கங்களுக்கும் கோணங்களுக்கும் : முக்கோண விரிப்பு ; முக்கோணங்களின் கோணங்கள் பக்கங்களுக்குள்ள சம்பந்தங்கள் ; ஒரு புள்ளியிலிருந்து சிபத்தனைக்கிணங்க மற்றொரு புள்ளி குறித்தல் ; இரண்டு புள்ளிகளிலிருந்து சிபத்தனைகளுக்குக் கிணங்க மற்றொரு புள்ளி குறித்தல் ; கொடுக்கப்பட்ட அளவுகளைக் கொண்டு முக்கோணம் வரைதல் ; வட்டங்களின் சில தன்மைகள் ; முக்கோணங்களின் வகைகள் ; ஓர் புள்ளியிலிருந்து ஓர் கோட்டிற்கு பெர்பெண்டிகுலர். VI. கோடுகளையும் கோணங்களையும் இருசமபாகங்களுக்கல் : இருசம பக்க முக்கோணங்களின் சில தன்மைகள் ; கோர் கோடுகளை இருசம பாகங்களாக்குதல் ; கோணங்களை இருசம பாகங்களாக்குதல் ; கார்டீஸ்யும் வட்ட பாகங்களையும் இரண்டு சம பாகங்களாக்குதல் ; பெர்பெண்டிகுலர்கள் இழுத்தல் ; ஸிம்மெட்ரி. பலமாநீர்க் கணக்குகள் ; முதல் பாரப் பாடங்களில் புதிய கணக்குகள் : -கட்டல் கழித்தல் ; பெருக்கல் ; வருத்தல் ; பலவின் எண்சன் ; கோணங்களும் வட்டங்களும் ; டெஸிமல்கள் ; டிவயிற் பொது அளவும் ; தாழ்ந்த பொது மடங்கும் ; சாதாரண பின்னங்கள் ; பலமாதிரி. இரண்டாம் பாரப்பாடங்களில் பலமாதிரிக் கணக்குகள். பட்டைசக் கேள்விகள். அறுபத்தாம். விடைகள். இரண்டாம் பாகம் 2-வது பாரத்திற்கு, கிரௌன் 208 பக்கங்கள். விலை அணு 10.

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(மூன்றாம் பாகம்)

பொருளடக்கம்.

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CALCUTTA UNIVERSITY:
CONVOCATION ADDRESS

By

Dr. W. S. URQUHART, M.A., D.LITT.,
Vice-Chancellor.

ONCE more ~~we~~ have the opportunity of welcoming you, Sir, as our Chancellor, and we thank you for the interest you continue to take in the University and its students, an interest shown in many and varied directions.

During the past few weeks we have shared in the anxiety of the whole Empire, and it is not fitting that at this Convocation we should request you to convey to His Majesty the King-Emperor the sense of gratitude for his recovery which is felt by the largest single body of students within his Empire. We may disagree in many things, but in one thing, I think, we are all agreed, and that is

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in loyalty to the person of our Emperor and in thankfulness for his delivery from danger.

It is only six months since you did me the honour of appointing me to the position of Vice-Chancellor of this University, and I can speak from personal knowledge of only a part of the year under review. My predecessor in office could have furnished a more intimate account of the earlier period, had he been called upon to do so, but he must at least have that share in our proceedings of to-day which is constituted by a recognition on our part and on the part of the whole University of the great zeal and devotion with which he discharged the duties of his office and the energy which he expended upon his many tasks. He did not spare himself, and to-day, in Convocation assembled, we offer him our thanks for his sacrifice of time and strength in the service of the University.

In this rapidly changing life of ours it is not possible that a year should go by without our being called upon to suffer great losses as a University. One of our senior Honorary Fellows, Mr. Syamacharan Ganguli, an educationist of standing and a benefactor of the University, died nearly twelve months ago, and about the same time we had to mourn the loss of one of the most distinguished sons of modern India, the Rt. Hon'ble Lord Sinha of Raipur, a pioneer in many new ways. Amidst his varied activities he found time to interest himself in the affairs of the University, and amongst other offices he was Dean of the Faculty of Law from 1906 to 1908. A similar position was occupied at a somewhat earlier date by the Rt. Hon'ble Sir Syed Ameer Ali, who died in August last. He served the University as a member of the Syndicate and as Tagore Professor of Law, and, although he had been separated from us by distance for many years, he was still closely connected with educational advance in this country both through his influence upon his own community and his reputation in the world of letters. The tragic death of Dr. George Ewan in July last removed, at the height of his powers and in the prime of life, one of our most able and vigorous Senators. He was an influence for good in many directions, and in a comparatively short time had come to be recognised as a trusted promoter of University progress. Lastly, we unite our sorrow with that of many leading families in this city in deploring the loss of Mr. S. R. Das, a Fellow of the University from 1923 to 1926, whose brilliant intellectual gifts and legal pre-eminence were a source of pride both to the University and the country. From reverent commemoration of the dead we may turn to the achievements of the living, and it is

possible to record a period of steady successful work in the departments of academic activity most closely connected with the University. It will not imply any depreciation of the labours and energy of others of our University staff, e.g., of such eminent philosophers and industrious authors as Professor Radhakrishnan and Professor Dasgupta, if I draw special attention to the wonderful discovery which stands to the credit of Professor C. V. Raman, and which has been received with enthusiasm by the whole scientific world. I do not presume to describe this achievement, but the President of the French Academy of Sciences has referred to it as a notable discovery which opens new and fruitful avenues of research. Some seventy papers consequent upon the discovery have been published during the last few months, and the frequency with which scientific journals speak of the Raman effect, the Raman spectra, the Raman lines, etc., prove that Calcutta University has had the honour, as a result of the labours of its distinguished professor, of supplying a new adjective to the vocabulary of science. The Faraday Society is organising a special meeting to discuss the new phenomenon and its relation to molecular spectra, and Professor Raman has been invited to lecture before the Royal Institution. This latter honour, I believe, he shares with the veteran scientist, Sir Jagadish Bose, to whom the University had recently the privilege of offering felicitations on the attainment of his seventieth birthday, and congratulations on a lengthy record of scientific achievement.

Before I go on to speak of the problems which will be occupying our attention in the immediate future, may I express my gratitude to my colleagues in the University for their

generous co-operation during the past few months? Thanks to their active good-will and their passive forbearance there has been no interruption during this period of the placidity of our existence. With so many clouds of controversy looming darkly upon the horizon, this may be the calm before storm, but I am hopeful that during our period of by no means somnolent quiescence—which is to be carefully distinguished from acquiescence—there may have been an increasing disposition to consider academic matters in respect of their merits and not merely of their origin. Just as acceptance of the evolutionary principles does not compel us to be always thinking of our ancestry, probably arboreal, so there is no reason why questions of the origin of problems or proposals should always be in the forefront in discussion of University topics.

Our educational situation presents so many varied perplexities at this juncture that I may be accused of contempt of court if, before judgment is delivered, I allude to any one of them. But I venture to take the risk. We have discussions going on round about us and amongst us upon Primary Education, Secondary Education and Under-graduate and Post-graduate University Education; and the Syndicate, weary but watchful Post-graduate Committees, slightly apprehensive, Trust Boards of Management not uninfluenced by the Raman effect, to say nothing of *ad hoc* Committees, are engaged in the good work of discussion, guided and encouraged, aided, abetted or otherwise by Dr. Banerjee in the Legislative Council, and by Dr. Jenkins—that “universal provider” of educational contrivances—in the depths of the Secretariat. It is said that in the multitude of counsellors there is wisdom, and having got the multitude, we hope for the wisdom. We hope that a

satisfactory solution may soon be reached of the problem of the Secondary Board, and that the difficulties of dualism as between the University and the Education Department may be overcome by an arrangement which will relieve the already over-weighted shoulders of the University of some of the burden of the schools while still keeping in mind our traditional responsibility for them.

The mention of both Primary and University education in the same sentence brings us abruptly up against the problem of finance. However wise we may be both within the University and without it (without being used in a double sense, so as to include people who think that a University education is *worse* than useless) we cannot afford to do without money, and must join in what was the other day described as the “shrill cry” for it. We wish to learn, and to learn to think, but in order to think we must live.

In respect of finance may I urge the necessity in any country of *both* University and Primary education? If inadequate provision is made for the continuance of a body of public-spirited men with a University tradition and up-bringing, the desire for primary education will soon fade away. Perhaps it is more true of this country than of some others that the desire for education filters downwards, and that unless you have a considerable number of men who have experienced the benefits of education for its own sake, you will not have sufficient stimulation of those who are not so conscious of these benefits. Negatively, also, the same is true. Restriction of the University education would mean the increase of illiteracy, for in such a case, efforts to establish or develop primary education would meet with little encourage-

ment. To the promotion of University education we may surely apply the words: This ought ye to have done and not to have left the other undone. Further, it is surely true that in any State it is always possible to make fuller compulsory provision for primary education than for advanced education.

Then in respect of our own more immediate financial problems—it has been pointed out on the one hand that the Government of Bengal has no money and that on the other hand the University of Calcutta is very extravagant. Settlements, both Meston and Permanent, are given as reasons why there should be no additional support of the University. But why—it may be suggested—should the Government of India altogether disown its oldest University child? It has had a certain amount of responsibility for the origination of the present clamant and unsatisfied needs, and there seems no apparent reason why it should confine its present generosity merely to the little ones in the nursery—why, in other words, it should not anticipate Meston unsettlements—I do not venture to breathe a whisper of any other unsettlements.

In respect of our deserts, again—or want of deserts—it is alleged that we are extravagant. We may be so in some directions, and there is certainly a possibility of some internal re-distributions, but in regard to the total sum necessary for maintenance, to say nothing of wholly legitimate expansion, I am afraid there is no possibility whatsoever of diminution without very serious detriment.

But what I wish to plead for above all things is that in all our negotiations we should get rid of the spirit of bargaining, that we should avoid the suggestion that we are out to get all that we can from Government, with

the corresponding implication that it is the intention of Government to give us the bare minimum necessary to silence our clamours. We hold strongly to the idea that we are partners in the consideration of the common good and not bargainers the one over against the other. We hold that it is the duty of the University to give boldly and honestly the advice which is asked as to the proper distribution of educational public money, and not to ask a pice more than is necessary in view of other requirements of the community. And at the same time we ask that, after an equitable distribution of the public funds has been made, confidence will be placed in us that the resources entrusted to us will be carefully administered for the greatest good of the community of which both Government and University form a part.

But it should be always remembered that there are other than Government resources in the country, and that the University has a right to appeal to private benefactors. Is it too much to hope that there may be a recurrence of some of those princely benefactions of a dozen years ago—unless Dr. Brahmachari by his recent appeal has succeeded in diverting all the generosity of the "rich aristocracy" of Bengal into the coffers of the Asiatic Society?

We have spoken of the close connection between the University and the interests of the community as a whole, and this leads to speculation as to whether the University is properly preparing the students for the duties of citizenship. There are on the one hand those who acclaim the students as presently active and efficient leaders in all public movements, and on the other hand, those who hold that it must not even be whispered in

their ears that there is such a thing as politics. Both extremes seem to me frankly impossible. But I am not going to traverse a well-worn theme, save to say that preparation for life includes consideration of political problems and that such consideration has to be permitted unless we are to force the students into one or other of the dogmatisms which produce either conservatism or anarchy. Such preparation, however, does not mean participation in the sense of a premature assumption of the responsibilities of the post-preparatory period. Difficulties in regard to this particular problem would not arise if there were more sympathy and co-operation between the University authorities and the general community. But if the University is divided within itself or if there is a cleavage of opinion between it and the general public, such difficulties are inevitable.

The same consideration also applies to the wider question of discipline, which is of paramount importance at the present time when people who are elderly in mind, if not also in body, are shaking their heads over the restlessness of the student community, and declaring that its members have altogether got out of hand, and that discipline must be restored at all costs. It always seems to me that comparisons between one generation and another are as odious as other comparisons are. But, again it does not meet the case simply to say that the students of to-day are no worse than their predecessors, or—more lightly—to quote the familiar saying that "boys will be boys." We must go deeper. We are dealing at least with boys who want to be men, who are on the threshold of manhood, and who cannot therefore be subjected to the same kind of discipline as is suitable for school boys. Analogies in this respect between one

country and another are unsafe. In England, at least in the older Public Schools and Universities, for example, boys are kept in scholastic and academic leading strings to a later age than in India or in Scotland, and whatever our opinion on the relative merits of the educational systems may be, the fact remains that we cannot in India or even in the barbarous country of Scotland count upon the same degree of traditional pressure in the direction of conformity to rule and custom. The problem of discipline has to be dealt with in a subtler way, and therefore becomes more intimately connected with the general rapport between the Colleges and the community of which I have already spoken. Discipline can be maintained only if the academic authorities feel that they have parents and guardians on their side. To my mind the relation between the authority and the student is of the nature of a solemn contract in which the teacher promises to respect the rights and privileges and personality of the student, and on the other hand, the guardian promises to support the authority of the teacher. The teacher must stand in some sense in *loco parentis*, otherwise he has no continuing security; he cannot for any length of time stand in opposition to the parent or to the collective enlightened community. If the contract of which I have spoken be broken, and if it be broken, as may occasionally happen, by the academic authority, then the adage that discipline must be maintained at all costs, proves to be mechanical, archaic and peculiarly futile. If we can maintain our discipline only by the persistent refusal to admit that there may have been a mistake, such discipline is not worth maintaining. Guardians may in that case quite conceivably exercise their right of withdrawal from the contract. But

what I do urge is that the guardians should play the game: that they should either withdraw their students from the colleges, or, if they keep them there, should resolutely uphold the authority of the College. They should not allow them to remain in College, and at the same time actively or passively encourage them either individually or collectively to defy the academic authority. Otherwise the authority of the teacher, an authority which has a greater traditional strength in this land than perhaps in any other, is irretrievably ruined. No satisfactory solution of the acute problem of discipline is possible so long as the relationship between the teacher and the community is one of antagonism or persistent misunderstanding. Discipline depends on the satisfactoriness of the general situation and cannot be considered apart from that situation. Thus the duty of the University and of all educated men is so to serve the community that the diffusion of culture may come to mean the establishment of peace and goodwill. Only then will the difficulties of the present situation disappear.

In conclusion, may I offer the congratulations of the University to those who have this day received their degree? It is one of the greatest days in your life, a day of new resolutions and new departures. You have received many benefits from the University, and yours is now the responsibility of remaining true to the ideals which you have been led to cherish. Your scientific and philosophical training ought to have created within you a desire for broad-mindedness and catholicity of judgment. You will not conceive of yourselves as having duties only to your own class, neither will you remain unimpressed by sufferings which do not concern yourselves. You will have a sense of the universal.

You will have many difficult problems to face. The problem of unemployment imme-

diately affects some of you, as in many other countries at the present day, and you may be inclined to say that your education has been a mistake and altogether wasted. Do not rush too hastily to this conclusion. Vocational training however desirable it may be, will not of itself solve economic problems. And the more general form of education which is given in a University can never be wasted. As was said recently, University education often helps you to do that which you can't do, or, in other words, prepares you for the emergencies of life and enables you to make opportunities for yourselves even when they do not lie ready to your hand. In looking forward to the future do not think so much of the provision of posts for you as of the preparation of yourselves for the post. Do not rely on external influence, but make yourselves fit to avail yourselves of opportunities, taking as the ideal of the health of a society the principle that no one should press forward to a position for which he is not fit. The protection given by an influential family is a very doubtful benefit, and should not be overmuch regretted by those who do not enjoy it. In any case there are not enough influential families to provide for the needs of those who are clamouring for employment. Stand upon your own feet and make yourselves worthy of employment, and you will not fail. In virtue of your firm resolution and your high ideals, you may be agencies not in the disturbance of society but in its reconstruction, and you will succeed in your vocation just in so far as you determine yourselves to fair-mindedness, seeking to contribute to the common good rather than merely to claim your own share of it. Rights and duties belong to all of you, but you can secure your rights if you think first of your duties, not merely to your own class but to your country and to humanity as a whole—*The Calcutta Review*, March, 1929.

EXAMINATIONS.*

By Sir MICHAEL SADLER,

*Master of University College, Oxford;
President of the English Section of the
New Education Fellowship.*

I

ENGLAND, now that China has changed, is the classic land of Examinations. In both countries the apotheosis of examinations has been due to a deep political instinct. Pre-revolutionary China preserved for centuries its classical culture by requiring young and middle-aged candidates to display their knowledge of it in the isolation of their examination cells. Nineteenth Century England developed her *chinoiserie* of examinations in order to safeguard the existence of independent schools and to keep at arm's length State monopoly in education. China was right in clinging to Confucius. Nineteenth Century England was right in keeping variety of schools. But young China has blown up the pagoda of examinations. And perhaps the English of the Twentieth Century may feel that they have not as strong reasons as their grandfathers had for keeping the State at bay.

In the last years of the Manchu dynasty, a Chinese statesman came to Oxford to study the examination system. He arrived in June and was impressed by the crowds of candidates flocking down High Street in white ties for their ordeal. The size of our Examination Schools gave him pleasure. Their architectural importance convinced him that we take examinations seriously. But when, after ascending the staircase, he stood

* An Address given at the Annual Meeting of the English Section of the New Education Fellowship, held 5th January 1929, at the Central Hall, Westminster.

on the threshold of the vast many-windowed examination chamber and saw the dark backs of the candidates bent over their little tables, his impassive countenance showed displeasure. Through his interpreter he expressed surprise that we in Oxford took so little care to prevent copying.

It is the chief glory of the English examination system that it is clean and honest. Scandals are practically unknown. In tests on which so much depends there is no cheating. The reputation of the English examinations, large and small, elementary or advanced, is unsullied. It is noteworthy that in these contests, though the reputation of the schools, the professional repute of the teachers and the prospects of the candidates are involved in their results, some element in the tone of the schools and Universities, some antiseptic in public opinion, guards the candidates against any temptation to play foul. Sensible regulations are part of these safeguards. But the real preventive is a sense of honour.

Not everywhere are examinations immune from corruption. There is a country which has imported its examination system from England and finds that it gives a savour to life like chutney to cold meat. In one of her famous Universities, I have seen the printed copies of examination papers locked against larceny in double cages of steel as if they were securities in the strong room of a bank. And there are tales of printers sitting on the damp type of examination papers and finding the impression on their white dhoties profitable. An admirer of the examination system which still flourishes in England and dictates educational fashions in Sierra Leone, may claim its honesty as a proof of the healthiness of our moral climate.

Our examinations are also historically interesting. Richard Busby, Headmaster of Westminster (1638-95), was, I think, the first to see what a useful weapon the examination system is in the hand of a man who is bent on choosing for promotion gifted and promising candidates rather than the protégés of the influential and the great. Long afterwards, Busby's idea was adopted for the selection of candidates for most branches of the British Civil Service. It was Sir Charles Trevelyan and Benjamin Jowett who divined that Cabinet Ministers and the permanent heads of the great departments of State would be thankful to be freed by the device of open competitive examination from the importunities of provincial acquaintances who wanted to be appointed postmasters, and of Members of Parliament whose friends had boys in search of a livelihood. French example also appealed to English reformers in the first half of the nineteenth century. French logic, in education as in painting, always appeals in hours of intellectual muddle to many English minds. You can see French influence, the influence of Condorcet, of the Directory and of Napoleon, in Bentham's cold passion for examinations, just as you can see the influence of French cabinet makers in English Empire furniture.

Moreover, the ideas of the Industrial Revolution, the ideas which were popularised first by Adam Smith and afterwards by McCulloch, harmonised with the idea of competitive examinations. A free field and no favour. The Devil take the hindmost.

"Thou shalt not covet: but tradition
Approves all forms of competition."

Robert Lowe blinked with joy at competitive examinations because they were a cheap kind of antiseptic.

But in the history of education in Nineteenth Century England, examinations were destined to render a service even greater than that of protecting patrons from designs on their good nature, or of stimulating competitive ambitions in the minds of industrious apprentices. They saved independent schools from the threatened monopoly of an unintelligent and one-sided State control. Our examination system has protected the autonomy of independent secondary schools. Examinations, by an external authority, provide what appears to be a common standard of value by which the intellectual achievements of pupils from a great variety of schools can be assessed without interference in the internal organisation and regulations of the institutions from which the pupils come. The impeccability of this common standard of value is more disputable than its earlier advocates believed. But there is some truth in the assumption that an impartial test of intellectual attainment, conducted by an external authority which is unbiased in judgment and unembarrassed by any fear of alienating its customers, is indirectly a test of the industry and purposefulness of the candidates and an audit of some aspects of the competence of their teachers.

The College of Preceptors was the first body to realise that school examinations conducted by an external authority might, by guaranteeing the efficiency of independent schools and reporting on the work of their pupils, serve as a substitute for direct inspection and examination of independent schools by the State. Oxford, guided by Sir Thomas Acland and Dr. Temple, was quick to take the hint and to follow on a much larger scale the example of the College of

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Preceptors. Cambridge was not slow in imitating Oxford. The Oxford and Cambridge Schools Examination Board secured joint action on the part of the two older Universities in the sphere of those schools from which each drew many of its undergraduates. Step by step all the other Universities, whether acting alone like London or in combination like Manchester, Liverpool, Leeds and Sheffield, pursued the same policy of organising systems of external examinations for the benefit of the secondary schools.

That this extension of the responsibilities of a University did not strike the public as anomalous when Oxford first proposed it, is perhaps explained by the fact that many schools had been long accustomed to getting examiners down from Oxford and Cambridge—an arrangement which became frequent at the time of the revival of the public schools under James of Rugby, Butler of Shrewsbury and Arnold of Rugby, but had been in use since mediæval times at Eton and Winchester, and since Elizabethan days at Westminster, and, at any rate since 1728, at Merchant Taylors, through their connection respectively with King's College, Cambridge, New College, Oxford, Trinity College, Cambridge, Christ Church and St. John's College, Oxford.

The Roman Catholics and some members of the Church of England quickly saw that an authoritative system of school examinations might be taken as a sufficient substitute for State inspection and for State examination on German lines. They were afraid of the latter, not because the work of their schools was inferior to that done in other schools but because they were alarmed at the rationalistic and secularising mood of those who, in the middle of the nineteenth century, wanted to

aggrandise the Education Department in the sphere (from which it was then excluded) of secondary education. French anticlerical secularism had coloured the thoughts of some English educationalists and had gone further than many pious people realised. Roman Catholics, High Churchmen, some Evangelicals, some Jews, a good many members of the Society of Friends (though they were well enough off to keep their few schools going in any case without State subsidy) dreaded this tendency to ultimate secularism, a tendency which hid itself behind the skirts of its incongruous ally, pious undenominational Christianity. Not that these believers in thoroughbred dogmatic teaching as a principle in education were averse to learning and enlightenment. On the contrary, to quote the Book of Proverbs, "they called understanding their kinswoman." But they stood for a theory of education which was that of St. Thomas Aquinas, and in fundamental presuppositions just the opposite of the theory of Rousseau, though in practice the followers of these two theories could honestly find a wide common camping ground between their opposing trenches. The struggle between these two cardinally opposite doctrines of education, which in France was clear and pitiless, in England was

"only infinite jumble, and mess, and dislocation."

But deep down in their hearts men knew that they were divided on an issue which they could not define in words. For generations this latent or smouldering quarrel kept those English statesmen who cared for intellectual progress from venturing on any thoroughgoing steps towards educational reorganisation and reform. The best men and women on both sides of the controversy had an instinct that it

should be possible on some higher plane to reach a reconciliation between the opposing parties—a reconciliation more profound in its philosophy than had been reached by the lucid logic of France. But they found their hopes deferred. When therefore the system of organised examinations was proposed as a test, at once impartial and impassive, of the intellectual achievements of the schools, nearly every Englishman welcomed with a sigh of relief this way out of the impasse. In a word, our examination system healed a harsh quarrel about English educational administration, and paved the way for the great period of reconditioning and enlargement which, made possible by the passing of the Local Government Act of 1888, began in 1891, and during the last twenty-seven years has wrought in English education the greatest change since the Renaissance.

My thoughts are drawn by this historical survey to a conclusion which I find distasteful. In England examinations are too deeply rooted for it to be possible to extirpate them except after a revolution. They are too convenient to be wholly dispensed with. For good and evil they fit in with English psychology—with the state of mind which wants to be sure that teachers and pupils are doing their work up to a decent level, which believes in prodding the careless and the indolent, which does not take very seriously any risk of intellectual over-pressure, and which has an aversion to any formidable kind of State Department of higher education. And, it must be added, our examinations are too remunerative (not in any way scandalously profitable but comfortably advantageous to examiners) to be scrapped without resistance. How many homes are helped to a summer holiday by the father or mother's fee for looking over examination

papers? How many Morris Cowleys or Austin Sevens owe their existence to this marginal source of professional income?

State-organised and State-aided education can no more dispense with the convenient device of examination than modern social legislation can dispense with the action of State officials. Thirty years ago Auberon Herbert dreamed of abolishing examinations. To-day correspondents to the newspapers write of bridling or abolishing the bureaucracy. Their hopes are vain. They could as easily get rid of their own shadow. More and more, English boys and girls will have to pass examinations as part of the routine of their existence. At present indeed it is still possible for a good many English schools and for some hundred thousand English children to live outside the examination ambit. But their lot is unlike the lot of the vast majority of schools and school-children. They are a dwindling group of exceptions. Examinations are the English destiny.

II

But our optimism about the benefits which are bestowed on us by examinations has become overclouded. Our thoughts on the subject are troubled by malaise.

It is well-known how much Cambridge gained in intellectual activity from the institution of the Mathematical Tripos, the first list of which was published in 1747-8; of the Chancellor's Medals for Classics in 1751; and of the Classical Tripos in 1824. Mr. Henry Latham, of Trinity Hall, began his brilliant book *On the Action of Examinations considered as a means of selection*, which was published in 1877, with the sentence: "Within the last thirty years the agency of examinations has worked a revolution in the whole province of education."

Nor will a member of Oxford or of Cambridge fail to acknowledge the debt of both Universities to Trinity College, Dublin, which, before her sisters in England, had genuine examinations for its degree, a course to which it was compelled because residence was not necessary for the Arts Degree.

I do not know whether at Cambridge and Dublin there is uneasiness about the effects of the highly-developed examination system of our days on the minds of under-graduates. At Oxford, satisfaction is not unanimous.

Everyone knows that the Oxford University Examination Statute of 1800, which established in 1802 a genuine examination for the B.A. degree with a small honours list in which the names were published in order of merit was, as J. H. Newman said fifty-two years later in his *Dublin Lectures on the Scope and Nature of University Education*, a sign of "the authorities of that ancient seat of learning waking from their long neglect." But it is possible to have too much of a good thing.* I am not sure that Latin Prose in Responsions is the Ark of the Covenant of Culture. One is sometimes tempted to hope for a Mussolini who would abolish all Honour Schools for a quarter of a century, remodel the Pass Schools, and treble the number of University scholarships and prizes in order to give scope for individual distinction.

In the sphere of secondary education and in the avenues to secondary education there are many signs of the growth of a belief that all is not well with our system of examinations. Competitive examinations for entrance scholarships at the Public Schools have a not al-

* "There is a dreadful tendency to let this University degenerate merely into a mechanism for passing examinations and taking degrees," Lord Hugh Cecil is reported (*Times*, November 11, 1928) to have said at Oxford.

together wholesome influence on the teaching and courses of study in preparatory schools for boys. There is muttering, sometimes more than muttering, against the present working of the Common Entrance Examination. Unrivalled in the world as are our best preparatory schools for boys in naturalness of tone and in their encouragement of healthy exercise, they are forced (not always against their will) to be archaistic in their course of intellectual education by the distorted stress laid on early Latin and Greek.

In the great world of secondary education in England, the great world which lies outside the important little world of the Public Schools and their *pépinières*, examinations already loom large and, when the intellectual standards of English schools have risen to the Continental level, will loom larger in the outlook of teachers and pupils. The sudden growth of numbers of candidates in the University Local Examinations from about 1890 onwards was a sign of the extension and reorganisation of English secondary education. This growth, by its sheer bulk, has raised problems which make one suspect that our system of mass production in external examinations has been compromised by its own popularity and success.

It is rather a pathetic phase in a movement which owes much to generous enthusiasm for the enlargement of the human spirit through educational opportunity. Pathetic, as young Shakespeare's picture of his Renaissance schoolmaster Holofernes is pathetic. Are the visions which gleamed in the essays of Matthew Arnold, of Edward Thring, of T. G. Cooper and of Sanderson of Oundle to be dimmed by the dull touch of examinations? England needs more culture, said Matthew Arnold. And how shall we, two

generations later than Matthew Arnold, say what we mean by culture, asks Professor A. N. Whitehead? We mean by it, he replies, "activity of thought, and receptiveness to beauty, and humane feeling." * "Then, culture," exclaims Sir Philip Hartog, "exactly covers that vital part of education which cannot be tested by the ordinary written examination. Examinations test, and can test, that part of a man's or a woman's education in which it is useful and necessary to think and act more or less on a model. Culture is that part of education which is meaningless unless it is sensitive and individual." † "The attitude," he says elsewhere, "of working to do what he believes some one else will think best is an attitude which tends to kill originality."

I suspect that the examination system is capable of doing more subtle and permanent harm to English wits than drink. But where is the United Kingdom Alliance for the reform of examinations? Where is the Church of England Examination Temperance Society? The ordinary parent, the prize-distributing Member of Parliament, the dutiful administrator in Whitehall or in a local education office, cannot be said to realise the far-reaching effects of this growing system of examinations. There are intermittent eruptions of criticism, but the general run of us take the system, for granted, ruefully in some cases, fatalistically in most. So, in the eighteenth century, did the English people take the slave trade.

* Quoted by Sir Philip Hartog in *Examinations and their relation to Culture and Efficiency* (Constable, 1918), p. xv, from A. M. Whitehead's *The Organisation of Thought* (Williams and Norgate, 1917), p. 8.

† *Examinations and their relation to Culture and Efficiency*, p. xv.

The difficulty about education everywhere is that at its best it is an art, at its average—? For the more mechanical purposes of education, the examination system is rather a good device. But its effects on education as an art are devastating. Suppose that we had trained Mozart or Beethoven, Wordsworth or Shelley, Cézanne or Bonnard, or Zadkine, or Duncan Grant, or Eric Gill, or Stanley Spencer, or Frank Dobson by an examination system, would they have been any better for the process? Would they have been the favourites of examining boards? What would have come of Ehrlich's originality if his professor had kept him during his medical course to the diligent distribution of his attention and energy to all the departments of the prescribed course instead of leaving him free to make slow, thoughtful, time-consuming experiments in what was to prove his special province of original thought? * The examination system, I fear, is more in harmony with the normal convenience of the people who never break new ground in knowledge and in art than with the needs of the creative mind. And yet how indispensable to the well-being of man is the creative mind; how much does not mankind owe to the originality of a few individuals?

In bringing educational opportunity to the multitude, are we doomed to set up a system which is innocuous to the average but hurtful to the exceptional mind?

Yet, whatever substance there may be in this haunting fear, we must go forward. Whether we like it or not, the educational movement of our time is irresistible. It has come in—not like the tide, for tides ebb and examinations will not abate, but—like some flood which has forced its way from higher

* See Waldeyer *Erinnerungen* (Berlin, 1927).

levels into the fens and will leave a large lake for ever. There are marks of predestination and permanence in the educational movement of our age. So universal is it that China and California, Czecho-Slovakia and the West Riding have all felt its impact and have been lifted by its inexorable power. On the map of the world only patches here and there, like the Gambia and Spain, lie unaccountably immune. Something which transcends our present power of interpretation is at work in this world-wide movement of opinion, which stirs the imagination and the wills of men and women of different race, religion and colour, to effort partly unselfish, partly self-regarding, and with an emotion which pours out like a volcanic stream from a hot faith in human nature. What this educational movement of our age portends we cannot divine: to what deep change in human intercourse it points we cannot predict. But we are thankful to have felt its power. And we now see stealing across its bright surface the great cold shadow of examinations.

III

We cannot abolish examinations, but we can amend them.

In England the fight for this reform has already begun. The struggle for change is hardly perceptible in the larger part of the field. But it is already fierce in regard to the present regulations for the first School Certificate.

In this keen struggle the Association of Headmistresses are the spear-head. They are the intellectual head of the movement for change. Among the numerous memorials and resolutions for reform of the first School Certificate none are so cogent as theirs. Their argument turns on the existence of a

type of girl who is clever at some practical or artistic work and will probably make a good citizen, a capable wife, a diligent mother. But she is alleged to be incapable of doing a pass paper in elementary mathematics or, alternatively, of learning competently a foreign language. This figure of the practical girl becomes more sharply delineated as the discussion proceeds. She is as distinctly recognisable in resolutions on the subject as the economic man was recognisable a century ago.

Does she really exist in large numbers? Obviously there are some girls, as there are some boys, who are weak in mathematics, and poor at any language, including their own. It is also known that some girls, like some boys, are what the Germans call "ballast." But those girls and boys, though they may be meritorious, are not of outstanding merit in anything and would not necessarily make good housewives or good soldiers or good artists.

The headmistresses' argument is not a sex argument. It applies to boys as well as to girls. And there is something real behind this figure of the "practical" boy or girl for whom a don's test, designed for donkeys or donnettes, is not the best test.

Wordsworth, writing in his wisest years, speaks in the last books of *The Prelude* of the two types of mind which are met with in England:—the philosophic mind and, contrasted with that, the mind which is incapable of abstract (or indeed of any adequate verbal) expression. Of the latter type he says:

"Words are but under-agents in their souls."* These English folk are near the primitive. They are often refined, alert, scientific in the

* *The Prelude*, Book XIII, near the end.

truthfulness of their observation, just (sometimes harshly just) in their penetrating moral judgment. But they do not reduce the operations of their minds to the currency of words. Words are for them a material which is untractable because inappropriate. They are not Pandits or the children of Pandits. They do not belong to what Oliver Wendell Holmes called the Brahmin caste. But they and their kind are immensely important as factors in the collective judgment of England. These are they who have instinct in public affairs. They are often disgustingly conservative. But they have streaks of uncompromising radicalism. Down the wind, to their quick sense of smell and hearing, come warnings of danger. They warn the herd. But theirs is no herd-psychology. As the Moody and Sankey hymn had it, they dare to be a Daniel. They do not know when they are beaten, and by their tenacity of prejudice or conviction they beat others oftener than they know.

Does the present examination craze, do our present breed of certificate-honouring parents and teachers, hurt this type of English person, this primitive but indispensable type? If we pervert its profound naturalness into a desire to use abstract expressions and to swallow generalisations, we shall be in danger of turning them from being like Dorothy Wordsworth into being like Count Keyserling. *

So long as most of the boys and girls of this primitive English sort could pass through childhood and youth unworried by examinations; so long as they could escape the attention of teachers who cannot get examinations out of their thoughts when they are teaching, it did not matter that English children of the other sort—children like John Stuart Mill or Mary Augusta Arnold—enjoyed the stimulus

and reward of what the Consultative Committee of the Board of Education once said that Plato meant by the *Bios éxētaetos*, the examined life. But now that we are trying to sweep all English children into the net of secondary education, it has become necessary to protect the interests of both sorts. The time is near when every little English child that comes into the world alive will, if it grows up, pass under the harrow of examinations. At present the harrow is blunt. But the spikes will get sharper.

So far as we can judge by reading between the lines of their pronouncement, the Schools Examination Council and the Board of Education in its rear are preparing to give way before the assault of the Headmistresses. But the concession which they seem likely to offer first as terms of peace is in my judgment unacceptable. They will say to us "You can have an alternative School Certificate which will suit the practical girl. We will call it Certificate B." This proposal should, I think, be implacably declined. We want one certificate but different avenues leading up to it. Those avenues should be boldly incongruous, because the two types of mind for which they are designed are dissimilar. But the different avenues should converge on one certificate, and boys as well as girls should be allowed to follow them.

IV

Suppose your private secretary, when she looked out your trains in Bradshaw, twice out of three times got them wrong? Would you be satisfied? Why then in our examinations do we fix the pass mark at about 33 per cent.? As we must have examinations, let us make passing them mean more than, with our dilated standards, it means in England now.

But the demand for thoroughness and accuracy is part of the discipline of character. And it is because they are supposed to test character that examinations are defended by some of their well-meaning friends. What is meant by the statement that examinations "test character"? Those who make the statement mean that a successful examination candidate must have the necessary self-restraint, pertinacity of purpose and industry not to neglect his work for pleasure, besides having the power of judgment not to overwork. He must not fritter away his time at the beginning of his course. He must plan out his reading. Like a Swiss guide, he must start early, go steady and keep going. He must also have sufficient nerve not to lose his head during the actual period of the examination. He must teach himself how to write both quickly and legibly. He must constantly make sure that he really knows what he has set himself to read. He must make a habit of posting up the ledger of his mind. These are valuable habits, valuable qualities. But while it is true that the majority of students who do well in examinations possess these qualities and have formed these habits in a greater degree than the majority of those who fail, success in an examination obviously depends on intellectual ability (the kind of intellectual ability which lies in argumentative power or in the power of assimilated reproduction) as well as in other qualities of character or habits of purposeful industry. "The more brilliant the candidate and the more retentive his memory, the less evidence does examination success afford as to any side of his character. It would be unwise to assume that every candidate who passes an examination has either much industry or much self-restraint.

An examination, it is true, if it be properly conducted, gives direct and unquestionable evidence of the proficiency of each candidate. But (unless it invites information of a different kind) it gives little evidence as to the way in which that proficiency has been acquired through the exercise of his moral powers. Moreover, the elements of character are far from being limited to those required for passing examinations. Examinations give no direct evidence of such valuable qualities as honesty, truthfulness, or the power of being a leader of men. We must therefore be on our guard when examinations are put forward as a test of character; and especially when it is sought to minimise the defects of a particular examination system by dwelling on its virtues in this direction. *

V

But, it may fairly be asked, cannot we amend the conditions of our secondary school and many other examinations in such a way as to secure that they shall record and bear testimony to the virtues or defects of each candidate's character.

The answer to this pertinent question is that the thing can be done—

- (1) if the examination results take into account the teachers' confidential and candid reports on the work which each candidate has done at school and the qualities of mind and character which he has evinced:
- (2) if the examinations, so reconstituted and so widened in their outlook, are

* I have quoted this passage from the chapter which (with Sir Philip Hartog's special help) we wrote for the *Calcutta University Commission Report* in 1918 (vol. II, Part I, pp. 222-3). The sentences before are based on the same chapter, but I have altered and added to them so much that I cannot put them into quotation marks.

used only as qualifying tests and not as the basis of competitive award of scholarships, or prizes or of places in an order of merit among candidates from a number of schools whose different judgments it would be difficult to equate with sufficient certainty to warrant close discrimination between the merits of a multitude of candidates:

- (3) if inspection of schools is (as in Germany) closely bound up with the method of the examination for leaving certificates, so that the external examiners may know beforehand the teachers on whose verdict the result of the examination will partly depend, and have formed a judgment on the intellectual quality and (so far as can be ascertained by inspection) the tone of each school concerned; and
- (4) if the purses of the candidates or the revenues of the schools or of the Government can bear the cost of this more expensive kind of investigatory test.

The German system, searching as it is, leaves out of account qualities of character, of individuality and of leadership which we in England would want our ideal examination system to take into consideration.

But we have already in England an important examination, conducted by the Board of Education in conjunction (a) with a large number of schools and (b) with five professional institutions (including the Institutes of Mechanical Engineers, of Electrical Engineers, of Naval Architects and of Chemistry) which deals annually with 3,000—4,000* candidates; works throughout the

* The figures given to me differ. One correspondent says "approximately 2,500 candidates every year" another "2,000—4,000 a year."

country smoothly and well; permits the greatest possible freedom to schools to examine for promotion purposes during the early years of the course; allows external examination by the teachers with an external examiner acting in co-operation with them; and (greatest merit of all) takes into account the life the candidates have led as well as their behaviour on the day of examination-judgment.

This valuable and significant attempt to secure a more discriminating and a less fettering kind of school examination is called the Examination for National Certificates. The schemes which the Board of Education has made in conjunction with each of the five professional institutions vary slightly in detail but the main features of all the schemes of examination are as follows:—

- (1) Schools desirous of participating in the scheme must first be approved as to equipment, qualifications of staff, curriculum and syllabuses.
- (2) The professional institution concerned sets up a Board of Assessors.
- (3) The schools set and mark all examination papers except for the final year of the course.
- (4) In the final year, the schools submit examination papers drafted by their teachers to the Institution Assessors who have power to revise and alter up to 40 per cent. of the questions set.
- (5) The papers as revised by the Assessors are returned to the schools and worked by the students. The scripts are marked by the teachers in the schools, and the list of marks together with the worked scripts of the students are sent to the Assessors who revise

the marking as may be necessary to secure a common *minimum* standard throughout the country.

- (6) Throughout the courses, home-work and class-work marks awarded by the teacher count in the award. In the final year 30 per cent. of marks are given to home-work, class-work, etc., and 70 per cent. to the examinations.

No scholarships are awarded or money grants made on the results of these examinations. Therefore this reformed system differs in a crucial way from the system of the (Northern) Universities' Joint Board and from any examination system upon whose results scholarships or prizes are given. The examination (like the Abiturienten-Examina of Central Europe) is a qualifying examination. It attests the ripeness of the successful candidates for a further stage of study. In this case, the Higher Certificate excuses the holder from the technological subjects in the examination for Associate Membership of certain professional institutions (*viz.*, the Institute of Chemistry, the Institutions of Mechanical and of Electrical Engineers, etc.)

Can this method of examination be widely extended or even made general in English education? That is a question of importance. The conduct of this kind of examination entails much labour. It is not conceived or carried on in the manner of "mass production." Our own English example of this type of examination is concerned with what, relatively, is a small number of candidates. To apply this method to all our other school examinations would mean a great increase in the number of Inspectors (who should be men and women deeply experienced in the art of teaching in the type of school examined) and would involve the abandonment of the award

of scholarships or prizes on the results of the examinations. This last-mentioned point raises many difficulties.

In England at present scholarships and exhibitions awarded after competitive examination are essential to the smooth working of our school system, because many of our schools and colleges charge fees which are beyond the means of boys and girls of slender means. It is essential that these boys and girls should have effective educational opportunity to go to those schools from the life and work of which their abilities qualify them to take full advantage. Without scholarships, they could not under present conditions go in England to those schools and colleges. The scholarship system, which in this extreme form, is peculiar to England, cannot be abolished unless the fees of the schools and colleges are brought down to the figure charged for corresponding schools and colleges on the continent of Europe. But to do this would mean a revolution in the autonomy of a large number of our most famous schools and of the colleges of the older Universities.

VI

Mr. Guy Boas, in a letter to *The Times* last October,* said that the Common Entrance Examination papers "practically only inquire what a boy knows.....whereas they should be designed to discover to what extent he can think and imagine and so create." He suggested that "every boy in the examination should be provided with a skeleton history note-book, a Latin dictionary and grammar and a book of geometry." With reference to this letter, I suggested in

* Republished in *The Times Educational Supplement*, October 27, 1928.

The Times of October 20 that "for certain papers in all examinations, from the Common Entrance onward, candidates should be allowed to have approved books of reference with them in the examination room. We want to test the quality of a candidate's mind as it works in a normal state, not when it is like a sponge dripping with an overcharge of accumulated material." During the last two months I have found more agreement than I had expected with the suggestion that dictionaries should be provided for candidates in unseen or composition papers in a foreign language. In the Cambridge Little Go candidates are allowed to use Latin dictionaries, and this arrangement, which has been in force for at least forty years, seems to be approved. An experienced schoolmaster, Mr. W. R. Thomas, of Crosby, Liverpool, who has helped me by his memorandum on the subject, allows me to publish the following summary of his views:—

The Use of Reference Books in Examinations.

- 1. English and French Literature. Allow the use of all texts set and multiply their number.
- 2. Latin, Greek, French, German translation. Allow the use of dictionaries.
- 3. History. In at least one paper allow the use of a first-rate standard work.
- 4. Mathematics, Science, Geography. No reference books, except mathematical tables and, in Practical Chemistry, chemical tables.

Concluding Notes:

- (1) The foregoing changes are as conservative as possible.

- (2) The examinations in view are the School Certificate and Higher School Certificate.
- (3) The object of the changes is to raise the standard of school-work, and of examinations, by the development of (i) investigations, (ii) criticism. It must not be thought that the diminution of memory work is intended to make the examination easier (though this may have been the intention and result when dictionaries were allowed in the Little Go.)
- (4) It is clearly necessary to alter the nature of the examination paper, and to make it more difficult, when reference books are allowed.

Two criticisms have been made on the limited proposal to allow the use of dictionaries in examinations:

- (1) It is urged that poorer candidates cannot afford the best dictionaries at school and are unaccustomed to their use. They would therefore, it is contended, be put at a disadvantage by a general permission to use dictionaries in examinations.
- (2) It is believed that some candidates would cheat if they were allowed to bring their own dictionaries, and it is maintained that when the number of candidates is large, no school or examining authority could afford to provide the books on loan.

My conclusion is that it is desirable to try experiments in allowing the use of books of reference in examinations and to record the experience gained.

VII

Considering what is at stake, there has been too little scientific observation of the methods and results of the examination system in England. In this field, systematic research is much to be desired. It might disclose possible improvements in method. It might put us on our guard against doing unintentional mischief by misuse of the indispensable instrument of examinations.

When we were reviewing the work and needs of Calcutta University in 1917-19, we found that some of its central difficulties lay in the problem of examinations. We recommended, therefore, that—

"in order to maintain continuous watchfulness upon the methods and use of examinations, to ensure that they are not so mechanically conducted as to exercise a harmful influence upon teaching and study, and to make certain that the purposes with which each examination is devised are held in view and are fairly realised, there should be at each University a small Board of Examinations whose function should be not executive but primarily those of criticism and suggestion." (Vol. V, chapter lii, paragraph 52.)

We pointed out that the Board "would need a small staff and funds to carry out its inquiries and that, in order to deal with the problems of examinations on a large scale, it would need the services of a skilled statistician acquainted with the modern methods of statistics." (Vol. V, chapter xl, paragraph 5.)

It would, I believe, be a great service to England if the Government or some affluent corporation determined to appoint for a term of years a Commissioner to inquire into the working of our examination system into the technique of question-setting, into the methods of marking, and into the psychologi-

cal effects of examinations on the candidates. The Commissioner would need a staff of assistants and funds for the prosecution of extensive inquiries and test-experiments. The right man for this difficult and responsible duty exists. He is not now in this country but I hope that on his return to England he would be available. The cost of the inquiry would be about £18,000 a year. As the cost of the examination system in England is at least £1,500,000 per annum, the sum proposed to be spent on scientific observation of the working of this vast machine is modest. It amounts to 12 per cent. of our annual civil expenditure on those grades of schools and colleges which are now specially affected by the examination system.—By the courtesy of the Author from *The New Era*, January, 1929.

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THE DECAY OF ENGLISH.

BY MR. P. R. KRISHNASWAMI, M.A.,
Lecturer, Government College, Kumbakonam.

LET me inform the reader at the outset that it is not my purpose to suggest either that the English Language has in any manner been misused or corrupted within recent times or that English Literature has fallen from its high level of artistic perfection and its glory as the index of a rich and varied life. But I am concerned with Indian educational policy in its attitude towards the teaching of English and fixing its place in the educational curricula at various stages. It is almost unnecessary now to recall the story of the introduction of English in Indian education under official auspices in 1835, after the well-known Minute had been drawn up by Macaulay in Lord Bentinck's time. But it is necessary to note what a flood-gate of knowledge has in effect been opened since the beginning of the nineteenth century. It is sufficient to remember the name of Ram Mohan Roy who has been regarded as the Father of Modern India, to realise the Indian Renaissance that has been set in progress after the impact of an English education.

The teaching of English had long been accepted in this province as an item of special importance in educational curricula. The Madras University inaugurated in 1909 a new scheme of studies by which the subjects were re-arranged with a view to providing specialisation according to the individual tastes of the student, and at the same time to expand and intensify the study of English. Within less than ten years after this, there were elements gathered within the authorities of the University which tended to pull down the pretensions of English in the scheme of

studies, from its high and austere place. After the democratisation of the University in 1923, the elements became stronger, and English has been pulled to pieces, while at the same time, the study of the vernaculars has been emphasised and enlarged. As in the University, so in the school, the stage of beginning English has been moved up by a year or two, and the medium of instruction in the High School has been permitted to be the vernacular, rather than English. 'Back to the vernacular,' has been a special cry in the educational world, as 'back to the village' has been heard in the country at large. The Osmania University is regarded as having performed a unique feat in ordering Urdu to be the medium of instruction and in subordinating English to a secondary position. The Andhra University, with its marked linguistic consciousness, and having its centre at Bezwada, is still waiting to catch the favourable breeze directly from Hyderabad to launch its own scheme of Telugu, substituting English as the first language.

It will be some years before the present putting down of English and the growing ascendancy of the vernacular bear together their new fruit. But without claims to prophecy and without meaning to hold a brief for English as against the vernacular, it may not be unprofitable to review the position of English in each stage of the educational course by marking the probable results of banishing or minimising it there.

THE UNIVERSITY COURSE.

Happening to remark about the inadequate equipment of the young men starting their course in the college, in the command of English expression, my colleague of the History department gave me the explanation

that numbers of them had come from schools where the vernacular had been adopted as the medium of instruction. The want of training in English to that extent, set on them, according to my friend the seal of stupidity. In an intelligent study of English at college, we are coming to feel more and more the necessity to reach the very springs of European culture. A knowledge of Greek achievements and Roman progress has often been felt to be a desideratum in our courses. That young men in the later years of their college course should be found ignorant of the City-state, of Spartan discipline, of the art of Pheidias, of the institution of 'Ostracism,' of the philosophy of Plato and Aristotle, of the wisdom of Socrates, and of the Macedonian phalanx, has struck teachers as a lamentable fact. Nor is the ignorance of the growth of the Roman republic, of the civic sense fostered under it, of the Roman genius for law and the Roman respect for it, of the dignity of the Roman senator and the Roman matron and of the wisdom of the Roman imperial policy, less excusable. The history of Greece and Rome which used to form a compulsory part of the first two years' course at college formerly, has since become an optional study by no means very popular. In the new spirit to question the foundations of all modern institutions we have need to acquaint ourselves with the bright dawn of European culture in Greece. While such a feeling comes to many of us, we are pained to witness the decay of a more or less efficient training in English in our educational courses.

In all the ages of history, we note a disparity between one country and another in the level of culture attained by them, and there has been a natural tendency for culture to flow from the higher to the lower country.

No civilised country has ever been content to nurture its indigenous culture exclusively. It has always felt and fulfilled a need to avail eagerly of another culture more advanced and energetic and different from its own. In India amidst innumerable vernaculars, Sanskrit or Persian had held its place. In Europe, Latin predominated for centuries over the languages of the different countries. Italian, French or German has often been regarded as necessary to give a rounding to the education of an Englishman. English occupies to-day a similar place in India. The present move to make the vernacular the medium of instruction in University courses lays an undue emphasis on the adequacy and efficacy of translations. While all the leading scientists have adopted a European language for the medium of expressing their thoughts, it is desperate and vain to attempt to make them available in some local vernacular for the student in a college course. Instead of adopting the more thorough-going and ambitious ideal of learning of every great thinker in the exact words used by himself, it is an imperfect, artificial and ridiculous method to trust to translations. A language develops its powers in proportion to the activities of those to whom it is native. Where the activities of a people are backward, the ambitious among them seek naturally to use the foreign language belonging to those who are in the vanguard of progress. Words in a language are the embodiment of the accumulated thought of time, and a word which has evolved in a length of time in one language cannot be substituted by a newly-coined one in another. It is not recognised how the learning of a new language and the habit of expressing one's self in it are intimately connected with one's thinking processes. The

foolish remark used to be made that an Indian would naturally think in the vernacular and translate it into English when obliged to it. The fact is largely the reverse of it. When Milton, the English poet, acquired a profound mastery of Latin, it became natural to him to think in Latin and translate it into English, and this process is reflected in Milton's English prose. To us in India, our use of English and the vernacular, has been marked out, each for a distinct sphere. Domestic life and speech in the street and in the bazaar are in the vernacular, while English has been the language of the professional life, the medium of elegant conversation and of cultural reading and communication. Where therefore the abandon of the home or the lowness of the street does not affect us, all our serious thinking has gone on naturally in English.

THE SCHOOL.

The educational experience of the world has clearly pointed to the early years of childhood as the most suitable age when a foreign language can be learnt. It is the age when the sense of novelty in a child can be best utilised for impressing the eccentric forms of a foreign language. It is the age when the vocal organs of the child can be effectively controlled to acquire the sounds of a foreign language. Children between three and five years of European parents acquire a marvelous mastery of Hindi in no time when happening to live in a northern Indian town. Tamil children similarly learn Bengali or Marathi, and Telugu children, Tamil or Canarese. Modern life has been called international in character. There is a thrill in speaking the language which is not confined to a particular corner of the world but holds

its sway over wide and distant regions of the earth. So, in the course of our elementary education, we lift the child into a broader world of concepts as soon as we initiate him into the rudiments of English. We cannot start English too soon in the school. The English alphabet is to the Indian child the Open-sesame to a larger world. The English letters are the magic spells over which the child naturally wishes to acquire power.

The humblest ryot and villager should derive profit from a few years' schooling which includes a course in English. To know the letters printed on a match-box or on a tin of kerosine, or on an engine which we may suppose him to be fortunate in using in agriculture, or of the post-mark on a letter which he may receive occasionally is a power which helps to harmonise him to the world in which he is living, and which he cannot afford to miss. The growth of town-life in modern times has requisitioned the services of a very large population with an elementary education. This population comprehending types like the petty shop-keeper, the compounder in a druggist's shop, the post-man, the constable, the compositor in printing-presses, the peons in offices and in business-houses, and servants in homes, is the indispensable instrument of modern life, which needs a rudimentary knowledge of English.

A good secondary education is an invaluable equipment for efficient national life. In Germany it is so efficient that it enables one to reach the highest place in the State—that of the Chancellor, formerly. We want an ambitious programme in this country to raise secondary education to a higher level. The complaint is expressed that the medium of English has imposed a heavy and avoidable

strain on the youth in our schools. But this complaint should be examined with the careful understanding of educational psychology. The linguistic power in English required of a student has a growth exactly proportionate to his general intellectual power. The circumstance of English being the medium does not impose an additional strain. As linguistic power is the basis of cultural growth, the linguistic exercise provided by all the subjects being taught in English should be a valuable feature of the school course.

The school provides us clerks, and since English is the language employed in private and public offices, we want the clerks to be well-trained in English. Of course there are those who want the official language to be in the vernacular and look to Swaraj bringing this about. But the use of English seems to be now independent of political circumstances

and the overthrow of English implies a severance of all the links with our immediate past.

There are again those who must pass from the school to professional courses like medicine or engineering. As long as we cannot deny that in every department of life we are beholden to the West for the highest source of guidance and inspiration, it becomes a practically desirable proposition to give the best nurture to English in our schools

There is a law of progress operating in the world which no individual can stop or alter, and this law is distinctly seen in India in the emigration to towns from villages and in the increasing adoption of English. In the operation of this law, a knowledge of English, among other things, has become the mark of civilisation in this country.

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OUR EXAMINATION SYSTEM.

By

PROF. C. S. SRINIVASACHARIAR, M.A.,
Pachaiyappa's College, Madras.

(1) THE BURDEN OF EXAMINATIONS.

THE problems of examination are exceptionally difficult and pressing in the present condition of our education. The Calcutta University Commission record abundant evidence of the way in which the machinery of examination has so profoundly affected the whole psychology of our education from the school upwards to the University. Though conditions may not be very bad everywhere, the dominance of the examination is a universal feature. In colleges men lecture to students on festive occasions that they should learn for learning's sake; but the first duty of an arts college, as generally conceived by parents, the public and the staff, is to enable students to get appointments; and it is but rarely that a college career has inspired the student with a real love of learning. In our high schools, the percentage of successes obtained at the final examination is the chief test of merit in the eyes of the public as well as of the parents. This attitude is not wholly unreasonable in view of prevailing conditions. The whole atmosphere of the School-Final or Matriculation class is one of preparation for the examination. The Indian Universities Commission, appointed by Lord Curzon in 1902, declared that "beyond doubt the greatest evil from which the system of University education suffers is that teaching is subordinated to examination and not examination to teaching." The Government of India's Resolution of 1904 on their educational policy also stressed on the dominance of the whole system of Indian education by examinations.

Teaching has come to be compressed tightly into the limits of the examination syllabus. Certainly in the case of a great number of candidates appearing for the lower examinations, and possibly in the case of a good percentage of candidates for the higher University examinations as well, the efforts of the students are directed to the memorisation of dictated notes and of information which can be obtained from keys and compendia, while to some extent, teaching has tended to rigidly restrict itself to the limits of the printed syllabus, and occasionally to deteriorate into the mere dictation of notes suited to be answers for examination questions. In the case of high school students, memorisation of suitable notes is "due in part to their incomplete knowledge of the medium of instruction—English—but is chiefly adopted, because it has been proved by experience to be the simplest method of passing examinations." The memorising capacity of Indian youth is proverbial, but even with this capacity, it will surprise us to hear that, according to authoritative information embodied in the last Quinquennial Review of the Progress of Education in India, students preparing for the M. Sc. Examination in some of our Universities commit to memory the contents of two volumes of Richter's *Organic Chemistry* and Roscoe and Schorlemmer's standard works on Inorganic Chemistry. Except in the case of a few keen students whose distinguished work at centres of Indian and foreign academic life shows that it is not capacity that they lack, but only opportunities and external stimuli to further work, books are laid aside after the examination is over and the laboriously-acquired knowledge is quickly forgotten.

(II) CAUSES OF THIS SITUATION AND SUGGESTIONS.

The evil of examinations is most rampant in the secondary school course. One main factor that has contributed to the building-up of this situation is the economic pressure, due to the fact that success in life for most students depends on their passing examinations and tests of one sort or another. Professor Radhakamal Mookerji of Lucknow enumerates among the defects that have produced this situation, "the emphasis of egoistic interests, and the neglect of communal and cultural interests and a general decline of moral and spiritual strength in the selfish pursuit of an education for mere livelihood which is due to the over-crowding in the professions, and consequent demoralisation and economic and political dangers." Apart from this complex synthesis of the operative factors, the chief points to be noted are that the student who is compelled to pass his examination in a tongue not his own, is necessarily resorting to an unhealthy cram and an inert kind of passive receptivity. Once a good working knowledge of English is attained by the student, the tyranny of the examination system tends to diminish; but even here the habits of cram ingrained in the lower classes continue to have a deleterious influence on the activity of the mind.

The defects of the system of examination are, in the eyes of some, the inevitable result of our system of education. The qualifications of teachers and their general poverty, and even more, the poverty of the average student, prevent any attempt at the individual treatment of students in our institutions; and the group-teaching, characteristic of our system does not promote the power of accurate expression or vigorous thinking for one's self,

and this in turn discourages an independent study of books by the student and makes the average one depend upon bazaar notes and keys. Dr. Sir Brajendranath Seal, Vice-Chancellor of the Mysore University, attributes the habits of cram and passive receptivity mainly to the imposition of a foreign medium of expression on the student. He recognises that even the best system of education has a place for a healthy intelligent cram, i.e., for a readily available store of information, concentrated on a particular point or topic or for a particular occasion, both in scholastic training and examination as well as in the actual arena of life. Imitation and repetition are more prominent in the acquisition of the power of expression in a foreign language; while excesses of verbal memory among a people noted for their oral transmission of the *Vedas* and *Sutras*, cannot mean anything particularly unhealthy. But the unhealthy cramming of the school-boy is without a basis of sensing and visualisation and of concrete imagining. In his own style, Dr. Seal would declare that "mental hybridity, a confusion of mental strains, with accompanying sterility, tends to be produced by a vicious system like this, and would be produced among stocks less stable and fixed, less true to type, or with less power of cultural resistance than the Indian." The reign of cram in schools is almost absolute in subjects like History and English, and is rendered worse by our boys' habit of reading their text-books over and over again. Moreover the large number of students that present themselves for various examinations tends to make the test of examination a mere test of memory and to make the examiner's function "more to check errors of memory than to test the ability of a student in the handling of a

question." The very nature of examinations in non-professional courses is very elusive and varied. A definite percentage of marks, which examining bodies generally insist on, should convey an intelligible meaning to the public; and to quote Dr. Seal again, the most important component elements of the candidate's capacity which an examination can test are, when reduced to the simplest terms, (1) memorisation, pure and simple; (2) memorisation, accompanied by understanding; and (3) power of applying knowledge to some useful purpose or capacity—though it may be difficult to draw sharp border-lines between the three. It is very difficult for examiners to enforce the distinction between memorisation and knowledge, through the plan of accumulating percentages of marks for the different questions in a haphazard way. The system of setting alternative questions is justifiable in those cases where a candidate has to cover a wide field; but it is obviously unreasonable to set "any alternative to a question testing knowledge which we regard as essential for every candidate who should be allowed to pass" or to set a question testing pure memory as an alternative to a question testing capacity and intelligent appreciation. A large volume of opinion is certainly in favour of doing away with alternative questions in the lower stages of examination, and of asking students sitting for the higher examinations to write essays sustained by logical thought and criticism. It is the business of the Universities and other examining bodies to model the examination system in such a way "that the only chance for a student to distinguish himself will be by reading widely and outside any prescribed syllabus, and by thinking intelligently about his reading; at any rate the papers should be

so framed as to offer special opportunities to such students."

The system of marking, particularly when a large number of papers are valued by several examiners, has always been difficult and vitiated frequently by the attempt to maintain a uniformity of standard. Some papers make it necessary that the marking should be done in a highly mechanical manner; and mechanical marking reduces the effect of eccentricity and variation in examiners to the lowest attainable minimum. But examiners should be generally allowed the freedom of determining, after the whole paper has been examined, whether the candidate deserves a pass or what division he is entitled to. Special excellence in an answer should receive adequate recognition possibly by the provision of a margin for general impression. Some would go to the extent of negative marking, *i.e.*, deducting some marks from the total, for any gross mistake or misunderstanding in the answer. The question of moderating and allotting compensation marks is very complex and has been exercising the minds of our examining authorities seriously. Examination in compartments is condemned in some quarters; while *viva voce* tests, library examinations and course-work and other tests are coming more and more into prominence.

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THE INFLUENCE OF EDUCATION ON THE MAKING OF CHARACTER*

By

Mr. V. NARASIMHAM, M.A.,

Assistant Lecturer in History.

Maharajah's College, Vizianagrum.

THE subject on which I propose to talk to-day is the Influence of Education on the Making of Character. It is a subject which from its interest and importance is so very thought-provoking that it has engaged the attention of many great thinkers and deserves careful study. If the object of life be to eat, live and make ourselves merry, then we need not trouble ourselves with thoughts on the making of character; but, if we entertain a more healthy view of life, if we want our citizens to be men of sound character, then indeed we must look about and see how such a character is formed.

In attempting to solve this problem, the first question that confronts us is how far the character of a person is really made. Time was when it was believed that man's character is formed entirely by the education he is given, that when he comes into this world, he is like the pure white sheet of paper on which we may write what characters we choose, and that the nature of the education he is given is the sole determinant of his character. As a result of this view, the tabling of pedigrees to judge the character of a man was considered to be the whim of the old-fashioned. But our psychologists now tell us, what our ancients have so strongly emphasised, that the character of a person is to some extent derived not merely from his

parents, but also from his stock. It is now admitted that there is nothing like an absolute beginning in the formation of a person's character and that already when the child is born, there are the seeds of an inherited character which take their own time to sprout forth.

Now this theory of character-inheritance is the source of many a surprise and many a disappointment; for it is difficult to set limits to this. We cannot say with any amount of exactness how far the character is inherited, how much from the parents, how much from the parents' parents and so on. Sometimes we see the son the exact prototype of his father; but not infrequently we are disappointed to find that there is little resemblance between the father and the son. At times we see men who seem to develop in comparatively late life belated tastes—tastes for travel or society or art or sport—which persistently struggle through, though they may lie hidden for half a life-time. And when we examine in surprise how they have developed the taste, we come to see that the tastes are descended from an ancestor of some generations past.

Hence, if we are able to arrive at trustworthy knowledge of the characteristics not only of a man's parentage but also of the stock, we stand at an undoubted advantage in analysing his character. For, when we detect in a person some trait which we know to have had a masterful influence upon the family history, be it love of adventure, or of money, or of ease, or of fighting and so forth, we can understand that the present is but an offshoot of the past.

So far now I have said that a person's character is derived from his ancestors. But this view, with all due concession to it, has

* An Address delivered to the students of the Hammick Hostel, Maharajah's College, Vizianagrum, on the Hostel Day.

to be accepted with caution if not with suspicion. For very often it so happens that the characteristics, which are unobservedly acquired by a person under the influence of environment, are supposed to be derived from the parent. Thus if the children of a craftsman take to his trade, it need not necessarily follow that they inherit his nature; it may on the other hand be supposed that the children got used to see him in his vocation and follow him in his footsteps by the influence of his example. It is then the education which they have received under the parent that has made them craftsmen like him and this applies to many cases which are supposed to be the result of inheritance.

Even if we make the largest possible allowance to the influences of inheritance, there is now none to deny the influence of education on the making of character. For the sake of curiosity I may perhaps make a passing reference to the theory propounded by Rousseau, the herald of the French Revolution, that school education destroys the natural bent of the minds of children and that the best thing to do is to leave the child for himself to develop his faculties as time and chance may fix. I need not waste your precious time on a criticism of this theory which on the very face of it shows a revolutionary tendency to destroy the existing without any attempt to construct anything fresh.

Now then, coming back to the point I have started with, *viz.*, the influence of education on the making of character, I shall first place before you the wide scope of the word education. The word in its literal sense means the drawing out of the faculties of the mind and the body. This implies that the word means much more than mere learning. According to the strict sense of the word, the

parent who asks the purohit to fix an auspicious day when he may begin educating his child, I say, that parent does not really know what he is asking. Really his child began to be educated from the moment of its birth. The baby that begins to distinguish its mother from other female members in the family, shows that it has already begun to develop its powers of understanding. The child in the cradle, who unceasingly stretches out his chubby hands to catch hold of the pretty doll kept dangling over his face, learns the same lesson that King Bruce learned from the spider that perseverance leads to success. Thus the education of man begins from the moment of his birth. As a young boy, he is all ear and eye to receive impressions from the outside world around him, and all these impressions go to the making of his character. This is really the most important period in his life-time when he is educated through the senses. He sees, hears and everything that he sees or hears takes fast hold of him. Thus we are sometimes surprised to see that the farmer's son perhaps knows more of the agricultural operations than many of us that have gathered here.

Then comes the period of school education, of which I shall say a few words by and by; this no doubt is the period when he receives a good deal of the sum total of the education which he receives in his whole life-time. But just as his education began long before his father dreamt of it, so his education continues long after he is supposed to have stopped it. The growing man observes the world and the store of his impressions also increases in proportion. It is not merely the extension lectures that a University may organise, or the public lectures that a few distinguished men may deliver for the education of the

masses, or the books which he might take up in hours of leisure that make him more educated; his family teaches him more than any or all of these. Sweet home is the receptacle of all the gentler virtues in man. It is here that all the softer feelings and emotions develop: it is here that the heart grows more and more intensely deep. It is again the family, more than learning, that makes the moral man. Religion is no doubt taught by preachers and through books, but you find the highest religion in the saintly image of your mother. In fact the whole life of man is one long sermon upon religion teaching him the one lesson,

"Just are the ways of God
And justifiable to men."

His sufferings, the ups and downs of his life, all these teach him the pious way of life. All his experiences in life are so many educative forces that make his character.

It is because of the presence of all these educative forces that a man's character goes on changing through the various stages of his life-time, and what he fervently expresses to-day as his views, he does not hesitate to condemn with equal fervour on a later day.

Now, gentlemen, I have shown to you that the term education includes within its range the mental and moral spheres in the development of man, but it is not confined to these only. If a man is a good athlete, we again say that he is educated. For education is not merely the development of the faculties of the mind, but also the development of the faculties of the body.

Such, then, is the scope of the word education and I have shown to you how education in its manifold forms results in influencing a person's character. And from the varieties

of the forms which education takes, we find varieties of characters in the world. For nations as well as individuals have their distinguishing characteristics and the difference in the characteristics of the peoples is largely to be explained by the different forms of education that they happen to receive. I shall now show to you by reference to the history of ancient Greece and India, how the peoples in these places widely differed in their character and how the education which they received was responsible for the difference.

Let us begin with Sparta in ancient Greece. The Spartan system of education was devoted 'entirely to the good of the State, and to the maintenance of a perfectly good army.' Here military education began from the child's birth. When the child was born, it was submitted to the examination of the State, and if it was weakly or deformed, it was thrown into the dark gorges of Mount Taygetus to perish, as such a child would be of no use to the State. If it was healthy, it was delivered to the mother's care, not from motives of kindness, but that the State might benefit.

At the age of seven, the boy was consigned to the care of a State officer and the course of his education was entirely directed to inuring him to bear hardships, training him to endure an exacting discipline and instilling into his heart the sentiment of devotion to the State. He had to undergo a series of hardships and life was made so unpleasant for him that he threw it away in battle without regret. He went barefoot in winter or summer and was permitted to wear but a single garment. He slept upon rushes and his rations were small. "Scantily clad, summer and winter alike, ill-fed, sleeping on such a rude couch as he

could make out, mercilessly flogged for the slightest breach of discipline, the Spartan soldier turned to be matchless for steadiness, discipline and bravery, looking on victory in the field as his blessing and death as his highest honour."

Thus the nature of Spartan education determined the character of its people so much so that the country bred a race of hardy warriors who left an imperishable name for disciplined valour and unhesitating submission to the interests of the State at the cost of life.

But the Spartan education had its serious defects. It was mainly the education of the body, unaccompanied by the education of the mind. The Spartan soldier whose mental and moral faculties lay dormant, was a living machine and the system of education which moulded this type of character was attempted to be improved in Athens by the dissemination of knowledge among the people. The average Athenian citizen whose busy round of daily activities led him from the Museum to the Ecclesia, from the Ecclesia to the public platform, and from the public platform to the theatre, imbibed a degree of culture rare in any country of the modern world. The development of the cultural aspect of education in the State resulted in the production of prodigies in Arts and Letters, men like Pheidias and Callicrates, like Aeschylus and Euripides, like Plato and Socrates. It was again this cultural aspect of the political education in Athens that enabled her to produce men like Pericles and leave the modern world the heritage of ideal democratic institutions.

But Athens, the city of the olive branch, failed to develop a very important aspect of

education, I mean, the moral aspect. A Themistocles or an Alcibiades was no uncommon figure in the streets of the city. For the ideal example of education in this direction, we have to turn to our own glorious past when the young pupils gathered around their Guru and received from him mental and moral nourishment. The student would learn his Shastras indeed; but the attainment of the 'high' ideal of perfect mastery over senses, was looked upon as the most important of the manifold and varied ideals of the student's education. "For the realisation of this noble ideal, a life of strict discipline was prescribed for the student. He had to shun sensual pleasures of all kinds and lead a simple and austere life. He was inspired by the high ideals of the teacher with whom he lived in close and intimate contact and imbibed social and moral virtues by his precept and example. At the same time the tender side of his nature was nourished, and domestic virtues developed by the sweet and affectionate relationship with the wife and sons of the teacher."

The study of the Shastras under the Guru finished, the young man would leave his Guru's house, but to his last he would never forsake the high standard of morals to which he got accustomed as a boy.

This form of education resulted in the creation of a nation of philosophers whose chief business in life was to meditate upon "the origin of the universe and the problem of existence." The speculative tendency brought forth great thinkers and religious teachers like Buddha and Maha Vira, but when religious speculation became all in all, the fate of the nation was sealed. The nation of ascetics found themselves unable to defend themselves against the inroads of foreigners.

Gentlemen and students, before I close, I believe, that on an occasion like this, it would be but in the fitness of things, if I should make a few remarks on the influence of our present day school education, in particular, on the making of character. Briefly putting, what is it that you students derive by your stay here; what is the work of the education that you here receive on the making of your character? I shall answer the question first by referring to what you learn in the class-room and next by referring to what you acquire outside the class-room.

The living voice of the teacher in the class-room brings you in communion with the great men of the past, and gives you a clear understanding of the books which are the repositories of knowledge. Now your studies in whatever branch they might be, have their value not merely in that they give you knowledge of some facts, but also in that they make your character on sound principles. As Bacon tells us, history makes men wise, poetry witty, mathematics subtle, philosophy deep, logic and rhetoric able to contend. The study of nature and of natural sciences gives you an understanding of your environment, but history and literature have their influence on the spiritual side of your nature. It has been a well-known saying about history that it shows "the present in the light of the past. It is the systematised story of the spiritual and temporal experiences and experiments of mankind." It was said by Bishop Stubbs that by a study of the experiences of the past, we are enabled to judge correctly the tendencies of our own time and to make proper decisions for the future. Though this may be said to be too much to expect from the study of history, it is undisputable that history socialises and humanises its students

"making them more tolerant of those whose views are not theirs and arousing in them admiration for heroism and social service."

Of literature which is said to be the root and branch of all the arts and sciences, I need say little in support of my point that a study of literature builds up sound character. Enough to say that it preserves like a 'vestal virgin' the purest figure of inspiration in its original vitality and intensity.'

Speaking of the education that you students receive in the class-room, I should also refer to the disciplinary influence of the school or the college on the making of your character. Here for the first time in your life, you understand the importance of punctuality and order, 'of the existence of an authority and of the fact which dawns somewhat gradually on the youthful mind that work, even when uncongenial is a thing to be expected and exacted of the sons of men.'

Now, let me say a few words on the education which you receive outside the class-room. The student finds himself in a society wherein he has to conduct himself properly or woe to him; he will in no time become the butt of his class-mates. Thus the class prepares the young man for his future life which he has to lead not in solitude, but in an organised society.

Besides, it is in the company of his fellow-students that the young man finds the most stimulating environment for his development. "In the warm and congenial atmosphere of companionship, ambition, honour, loyalty and sympathy flourish, without which the spirit of youth would be ill-nourished indeed." Moreover, the strongest ties of friendship are formed early in youth and the influences of comradeship and leadership continue to make

themselves manifest not merely during the period of the student's school life but later also.

Viewed from this perspective, the value of hostel life is seen to be immeasurable. For here the student is always in the company of his fellow-students except when he is under the eye of his teacher in the class. And life in the midst of a society of friends, who are willing to appreciate fair conduct, but who will be among the foremost to flout at him for any misbehaviour, is the best tonic for the innocent self-conceit which the pardonable partialities of home may readily feed. It is here that the qualities of self-reliance, respect for one's fellows, and the spirit in which to take rebuff or defeat, are fostered.

The modern ideals of education are self-realisation and social service and these ideals are best achieved by the life in the hostel that you lead.

In taking a comprehensive view of school education, we must not forget the influence of the physical education that is given to the students. The saying of a strong mind in a strong body is too well-known to you, and needs no further comment. 'The weak body commands while the strong body obeys'; if you are physically weak, you cannot do what you may piously resolve to do. You lose your fixedness of purpose. And hence the need for physical education.

Besides such indirect influence, the games are also seen to have a direct influence on the making of character. It is unquestionable that games develop quickness and accuracy of mental and bodily adjustment. But a word of caution is needed here. We see great athletes who do not show any marked excellence of mind. Hence physical education

must go hand in hand with the other aspects of education for the development of character; but physical education by itself must never be made the *summum bonum* of education either at school or college.

One word more, and I conclude. Speaking of education at school, a word has to be said of the educative influence of excursions on the making of character. If the excursion be to a historic place, the sight of the relics of the past rouses the student's imagination and brings before his mental eye, in flash after flash, pictures of the scenes over whose monuments he stands. Or, if the excursion be to a natural scenery where nature lies in all her gorgeous splendour, that again has its influence upon his character. In the famous lines of Wordsworth:

One impulse from a vernal wood
May teach you more of man,
Of moral evil and of good
Than all the sagas can.

From the few remarks that I have made on the influence of education on the making of character, it is seen how much the character is made by proper education. When that is so, it is for you, students, to make strenuous attempts for developing your character. Indeed, it is in the making of your character that the real value of your education at the college lies. The dull and dry facts that you have to cram for the purpose of the examination are deservedly forgotten by you very shortly after the examination is over. That which you carry with you when you leave your *Alma Mater*, is really a character properly developed which enables you to steer through the stormy sea of life's perils till you reach the destined goal. You are now passing through the seed-time for the splendid harvest of the future that awaits you. Sow the seeds cautiously, and try to become the men that your country expects you to be.

CLASS TEACHING AND INDIVIDUAL PROGRESS.

By Mr. S. JAGANNADHAN,
*Kindergarten Assistant, Teachers' College,
Saidapet.*

THERE are a number of factors that determine the progress of an individual. Briefly it may be stated that the nature and nurture of a child determine its progress. The hereditary tendencies and the natural instincts of the child go to make up for the nature of the child. The nurture of the child depends upon the nature of the home, the school and society in which the child is brought up. To go into details the following home influences, such as the early training given to the child, the interest of the parent in creating an educative atmosphere for the child at home, the educational facilities afforded to the individual, the opportunity given for the unfolding of the personality of the child, are all responsible for the individual development. The school and the social circle with which the child comes in contact, contribute their quota in determining the child's progress. The teacher is primarily concerned with class teaching. But it also forms part of his duty to come in contact with the child's home and do his best in effecting a maximum amount of development in the child. Side by side with studying these problems, I also believe that a study of the Pial School tradition in relation to the new educational ways, needs the careful consideration of the teacher. This will enable him to adjust his methods to both the old and the new ways in education.

The scope of the paper thus limits itself to the following problems:—

1. The Pial School tradition and the new educational ways.

2. Parental co-operation.
3. Class-room practices in attaining individual progress.
4. The practices obtaining in other countries to obtain the maximum of development in children.
5. Our great drawbacks.
6. The need for a great organisation to do propaganda work in educational methods.

1. THE PIAL SCHOOL TRADITION AND THE NEW EDUCATIONAL WAYS.

People always talk of the good old days. If there should be any truth in it, the teachers too must take all the good features in the educational system of the good old days. The Pial School system may be taken as an example of the educational practice of the past. A successful teacher will always combine the old with the new so as to produce greater progress in the attainments of children. At the same time he will try to avoid the several things of the old that are not conducive to the happiness of the child at school. I shall now briefly speak of the several good features in the Pial School system that we can take to and the others that we should avoid.

(1) The Great Memory Power.

In the cultivation of memory power, the present generation of children are really backward. The cause for such weakness of retentive faculty in children is at once attributed to the faulty methods in education. 'Proceed from the known to the unknown,' 'Teach through the concrete' are two great maxims in education. It is true that children are very bad in their Multiplication Tables. In teaching Multiplication and Fractional Tables, the teacher is well advised to teach them through the concrete, but it does not prevent him to ask the children to memorise

the same after practical demonstration. Such teaching by the concrete is very essential at the earliest stage, which is the stage for cultivating the memory power also.

Period of childhood now wasted.

I should consider that the impressionable years of the happy period of childhood is wasted now. Education does not begin only at the age of five, but begins from the birth of the child. The memory power is much cultivated by singing to the child cradle songs, nursery rhymes and telling him cradle stories. Devotional songs can be taught to be memorised by the child. So the cultivation of memory power has much to do with the home-training given to the child. In olden days children were taught to name the days of the week, the months of the year, the twenty-seven constellations, etc. These methods are the real foundation-stones for memory cultivation. Hence it is for the present teacher to give exercise to memory by teaching nursery stories, rhymes, prayer songs, etc., from the baby class. There is always a charm attached to the repetition after the teacher. Even in the higher classes, it is open to the teacher to select suitable verses from Tamil literature for being memorised by pupils. They may also teach children some Sanskrit Slokas.

(2) The Effective Mental Training.

Another criticism levelled against the modern education is the lack of clear mental training which was in great evidence in the Pial School tradition. It is pitiable that a boy of the present school with all his books, note-books and pencils is not able to do a simple mental calculation. The Pial School gave the child plenty of mechanical drill in the four simple rules, oral and written, and

great practice in oral work. It was really wonderful to see a boy of the old type giving ready answers to even difficult calculations. The teaching of number in school is always found to be a difficult problem. Teaching by the concrete is insisted on by educationists in order to create interest in the child and to make number teaching a pleasant feature of the school-life of the child. It also shows the child the reasoning aspect involved in number teaching. So when the several stages of teaching by the concrete have been finished, the teacher can give both mechanical exercises for drill work and short problems for oral practice. The practice method of calculations, the bazaarman's method of giving change, all these can really find a place in modern education and these are problems that can be actually solved by the concrete method. A judicious use of the child's leisure hours can be made of by setting him suitable home-work in Number and Language.

(3) Greater part of the day spent at school.

The Pial School child spent a great part of the day at school with the teacher. Most of the school time was mainly devoted to the teaching of the Three R's, whereas in the new education there are more subjects in the school curriculum that have to be taught to children with a view to increase their general knowledge. One thing that is possible for us to do is to engage the children in gardening and games outside the real school-time and assign more practical work for children to do and learn for themselves in the school hours. The teacher himself went round the children's homes during his spare time. It should also be told that the then teacher had a more contented life within the village than the teacher of the present day. He was a jack of all trades. He had all his wants

attended to by the villagers. The latter considered that their happiness depended upon the welfare of the village teacher and his family, whereas the present teacher with his low pay has to spend all his leisure time in finding other means of supplementing his school income. The fact that the parent had a great regard for the teacher of the past cannot be denied. Unless the home and the school unite and strive their very best, education cannot be completely successful.

A. MORE PUTTING IN THAN DRAWING OUT.

Having outlined the three special features of the Pial School system, let me point out some other features that we have to avoid. Education has been defined as drawing out and the practice of the pial school was quite opposed to the modern theory of education. The child had no initiative in learning anything by self-effort with the guidance of the teacher. The teacher put into the children's mouths what all they must learn and expected the same to be repeated by them the next day. In modern education it is considered necessary that education should be combined with the practical life of the child in and outside the school. 'Teaching by life' is the keynote of the present teaching. Hence the school life includes field-work, composition, shopping, games, hand-work and drawing maps, thus effecting a true combination of hand-work and head-work in schools.

LACK OF INTEREST.

There was the school room or the pial which far from enticing the child to the school was a place of fear to the child. The child had not the inclination to go to school and learn every thing by rote. There was nothing for him to construct, to build, and thus to give expression to the inner workings of his mind.

Have we not generally heard of parents saying to the child: "I will send you to the school if you make any mischief here. I shall ask the teacher to punish you." The child trembles at the mere suggestion of the school. The modern school differs to a great extent from that of the olden days. At least efforts are being taken to make the school as happy a place as possible by equipping it with pictures, maps, apparatus and appliances for interesting and effective teaching.

PUNISHMENTS.

The Pial School was always associated with punishments. They were freely resorted to for negligence in attention, learning and repeating. Even infant class children were not free from punishment for not repeating and writing the alphabet in order. The new education dispenses with punishments in schools. The schools are considered as places where the child finds ample scope for freedom and self-development. The school life is made as happy as possible for the child to stay there and learn. To relieve the strain of the Three R's, subjects such as handwork, story, etc., are included. Though one cannot expect the children to turn out specialists in these subjects, yet they are useful in so far as they bring the children into closer touch with the teacher. The teacher is able to study the child individually and is thus able to adjust his teaching to the individual pupil. In the higher classes, punishments are resorted to in cases where they are needed for correcting the child. When all other resources fail, some sort of punishment is found necessary. The punishment is followed by a word of advice from the teacher or the expression of a word of regret if it is meted out in bad temper. When the next lesson after a difficult lesson happens to be an easy one,

the child forgets the pain and runs to the teacher for help in handwork, drawing or other practical work and soon the punishment is forgotten.

ONE THING TO BE AVOIDED.

In all school performances where we have to depict 'a village school scene' it would be in keeping with the nobility of the profession to discard all things that speak against the teacher. Even if it is taken as a humour, yet it sometimes produces an adverse effect on the spectators and acts as a very bad example for children to imitate. For example, the scene of a number of boys crowding round and singing rhymes abusing the teacher, the monitor using the cane freely, the utter lack of discipline in the absence of the teacher, are all things which ought to be deleted from school performances. In their place, memorising of chosen passages, brisk oral work, a short dictation, a few minutes' drill, prayer, etc., can be suitably inserted. The latter will show the parents the real accomplishment of the village school and its contribution to modern education.

II. PARENTAL CO-OPERATION.

I believe that readers of this Review would have been aware of a note in the Editorial columns for the month of October 1928 pointing out the desirability of parental associations and conferences. I have in two previous numbers of this Journal, April and May 1927, detailed the ways and means of obtaining parental co-operation. I also believe that a system of questionnaire to the parent after a month's stay of the child in the class, would enable the parent to pursue the right method of studying the child's life at school.

A. *A system of questionnaire enables more study of child life.*

(The questionnaire opens with a note as shown under).

A form of questionnaire.

NOTE.—It is necessary that the parent and the teacher should co-operate in the education of the child. It so happens that sometimes the teacher is unable to detect the child's faults and realise his difficulties in a class of 30 or 40 pupils. It is requested that the parents will give their careful thought to these questions and give the school the benefit of their findings. The difficulties may be personally ascertained from the children, their work, and their note-books. As the children will freely express these to the parent, the answers may be easily obtained and sent. This will enable the teacher to pay greater individual attention, so essential to individual progress.

1. In what subject does the child feel great difficulty?

(a) Arithmetic, (b) English, (c) Language
(d) History, (e) Geography.

2. If in Arithmetic, wherefrom does the difficulty arise?

(a) Lack of clearness of Tables.

(b) Slips in the four simple operations.

(c) Not understanding the method of working.

(d) Copying wrong figures.

If in English, where is the difficulty greatly felt?

—In (1) Conversation.

(2) Dictation.

(3) Reading.

If in Language, is the difficulty felt in

(1) Free expression, (2) Reproduction, or
(3) Writing?

3. What is the child's mother-tongue?

4. Does he take interest in reading extra books?

5. Does he experience great difficulty in Map-drawing?

6. Does he approach you to teach him his school lessons?

7. Does he regularly sit at his lessons?

8. What are his hobbies?

9. Does he spend his holidays throughout in play?

10. Does he obey the parents?

11. Has he a tutor at home?

12. If so, is he (the tutor) also a teacher?

13. Is the child's memory strong or weak?

14. Does he seek help from boys reading in higher classes?

15. Are his companions of good behaviour? Their names and classes.

16. Does he inform you the mistakes committed by him in the school?

17. Does he show you his note-books and the short notes made by the teacher therein?

18. Is he generally healthy?

19. Any other particulars not covered by the questions.

Notes from Practical working.

The replies revealed a genuine interest on the part of the parents to come in touch with the school. Such answers as 'disobedient,' 'teases children at home,' 'plays throughout the day,' 'has ear troubles' greatly facilitate the teacher's work. The other difficulties of the child have to be grasped and solved. It is a great responsibility for the teacher to see to the progress of each boy on the lines of the questionnaire. It is a great document bearing on the school history of the child. Parents who are whole-timed workers in Postal and Railway Departments and others who are illiterates cannot be expected to give

answers to this exhaustive list. It is for the teacher to help them as far as he can.

B. *Standard of attainment in each class to be distributed to parents.*

I also believe that the parent should know the standard of attainment of a boy in each class, so that he may also devote his leisure time in helping the boy to attain the standard required. The scheme of work can be kept under circulation among parents. At least such of those parents who are really anxious to render their best to children will be profited by this procedure.

III. CLASS-ROOM PRACTICES IN ATTAINING INDIVIDUAL PROGRESS.

The present system of class teaching gives room for the following criticisms:—(1) That there is no scope for individual development according to one's own lines; (2) that the teacher has to hurry his work through so as to finish a set scheme in a set period; (3) that the backward boy, the forward boy and the average boy are all trained to reach the same level of attainments and as such there is a levelling down of the intelligence of the brighter pupils. Should the class system be abolished then? No, the system cannot go as it is not without its merits. There is first a vast saving of time by teaching to a class as a whole. * "What therefore seems to be necessary, is not to abolish the class as a unit of instruction, but to aim at its re-organisation upon such lines as will give us a substantial union of the advantages of both the individual and the mass methods of teaching, and secure the benefits of healthy rivalry and self-reliance in place of the self-distrust and lack of worthy ambition brought about

* Education for self-realisation and social service, by Frank Watts.

[MARCH 1929]

by the older man method. In the warm and congenial atmosphere of companionship, ambition, honour, loyalty and sympathy flourish, without which the spirit of youth will be ill-nourished indeed." Retaining then the class system of teaching, there are plenty of ways to obtain individual progress. The following suggestions are means to this end.

1. The History of the pupils on the lines of the questionnaire.

The questionnaire to parents reveals many things about the child life at school and home. It provides as it were a history of the child. I should think that this history should be handed over to the teacher who handles the child in the next class. The teacher will do well to take note of the individual difficulties and will review at the end of the year the care he has bestowed on behalf of each child in conformity with the answers in the questionnaire.

The admission form will better adorn the teacher's shelf than the record rack inasmuch as it gives some particulars concerning each child.

2. Each teacher takes his own children in the next class also.

This is a scheme worth trying in a fully equipped elementary school. In schools manned by two or three teachers the system is already working. In one way this is defective as one teacher has to look after two or more classes of children at the same time. Nine months' stay under a teacher is too short a period for the teacher and the child to come into close contact and understand each other well. Those who are detained in a class will not have the advantage of this system since they will be taught by the lower class teacher who comes to the next higher

class along with his pupils. This will produce some difficulty on the administrative side since it is necessary to employ highly qualified teachers from the lowest standard. This also gives room for the head teacher to be appointed in turns from among the members of the staff.

3. Special classes for backward children.

"After the teacher has become so well acquainted with her school that she knows how to regulate it, and conduct the classes to the best advantage of the majority of the children, she should seek to know more of the exceptional and peculiar children whose needs are not being fully met, and to find ways of meeting their needs without interfering with the general school and class work. In doing this she should never assent for one moment to the idea that all the children must be treated exactly alike. Everything she does should be for the good of each child whether it be the assignment of a long or a short lesson, or the giving of a punishment or a reward. What will be the best training or the most effective corrective for one may not suit another. Hence it is her duty to treat each pupil in the way that will cause him to improve most and on that basis justify her conduct."

A. Special classes for backward children.

A holiday class for long absentees and those who are not up to the mark may prove to be valuable. Brighter children too are welcome to attend the class and be of service to the teacher in helping the absentees and the backward ones.

Thus individual attention will be made possible and found to work out well. Written

"Fundamentals of Child Study" by Edwin A. Kirkpatrick,

It should always be corrected with the children and the holiday class may be devoted to this purpose also, if the work could not be accomplished during school time.

B. Extension class for backward pupils.

If the parents of such pupils can be induced to have a tutor for their children at home, it would be a suitable and appropriate way of making some progress in these pupils. The tutor may undertake the work for two or three such children at the same time. The one understanding between this teacher and the parent should be that the children are not given private instruction so as to ensure their promotion to the next higher class.

C. Special course combined with some vocational training.

It is a pity that our educational system has not taken into consideration this aspect of the problem. The carpenter's son, the shepherd's boy, the potter's child, all these have acquired some interest in their fathers' vocations. A part of their daytime is also spent in helping their parents in these vocational pursuits. If the Three R's could be taught in relation to and along with the teaching of these trades, it will facilitate the children in learning the former in a suitable manner.

D. But a course left to the class teacher to deal with such backward pupils is this. After explaining a sum or any lesson to the whole class and after assigning them some written work, he may call in these backward boys one by one and give them some personal help.

4. Forming groups in class.

The system of forming groups in class is also a good principle which will facilitate individual progress. A section which is very slow in reading will demand more attention

than the others. The brightest group gives help to the teacher in explaining difficulties to backward children. This requires more freedom of work to the teacher. A head teacher who realises the value of individual progress in class teaching will certainly approve the system of group work in class.

5. Children giving help to the teacher.

Not only in group teaching and holiday class work do the brighter children help the teacher, but also on various other occasions in the class-room. A system of distribution of class work among children is possible. The routine work of assigning transcription to all children is of no good if it is to be to the advantage of all. The teacher can simply sign the page without having time to point out the mistakes committed. So to prevent this, I would suggest the system of assigning transcription exercise only to those who are extremely backward in hand-writing. These exercises will be checked by the brightest boy in the class who is well up in language and good at writing. Others can help in the collection of home work, distribution of test papers, keeping custody of registers and books, making arrangements for games, etc. Thus the seeds of self-government will have been sown in the class.

6. Recast the Time-table.

If the Three R's should receive more attention than all the others put together, it is but right to recast the time-table and allot more time for the Three R's. The question of finishing a work assigned for the day will have to be taken note of. The 'writing period' can also be utilised for finishing any work left incomplete.

Gardening and games can be done out of regular school-time. A separate period for

individual work, free work and library should also be assigned in the time-table.

7. Written and Practical work in connection with the Three R's.

'Writing maketh an exact man.' There should be more room for written work in connection with language, and 'practical work' in connection with number. I have been suggesting a series of exercises under 'practical work' in my articles on number teaching. Further, I suggest such work as making calendars, and clock-faces, cutting out boxes and trays, cutting of circles into halves, fourths, eighths and sixteenths, collecting of different stamps to the value of a rupee, measuring and weighing articles, buying and selling things in the class-room and giving change, etc. Along with problems in number work, some time ought to be devoted to mechanical work. The teacher can set judicious home work at the week end. A separate period should be set apart for home work, since ordinarily the children take down the work hurriedly and thus copy down wrong figures and incorrect statements. Occasional tests in number work in testing the children's accuracy in speed in the Four Simple Rules and knowledge of the Tables, are exceedingly necessary. Picking out new words, using words in sentences, answering questions, dramatising, silent reading, story-telling, writing composition exercises are suitable forms of work for language study.

8. Lessen the strain in the other subjects.

The other subjects of school instruction such as History and Geography and Nature Study should be taught in such a manner as not to cause undue strain on the pupils. Wherever possible they should be taught in relation to the Three R's. Practical work, Map-

drawing, Picture collection, Chart making, etc., should lessen the strain and awaken an interest in these subjects.

9. Children's Clubs.

The after-school time will be well utilised if the children can form a club and spend the time in suitable games. Thus the school community life will be extended even outside school hours. A small library may be attached to the club. The teacher can prepare three or four copies of the library list and keep them hanging near the shelf. The boys can take the books that interest them. They have to be taught to keep the books carefully and thus respect the books as they would show their devotion to the Goddess of learning. There is education even in recreation. The teacher can teach some nice word-building games that will facilitate the learning of spelling. The practice of the pial school in repeating the tables after the monitor, the practice of story reproduction are also other forms of spending the club time. General knowledge of the pupils can be increased by supplying the children with an illustrated weekly. This must be hand-written, and illustrated by pictures. Number puzzles such as the 'think of a number' series add to the education in recreation. The children can be encouraged to collect riddles.

10. The class strength—Admission and Promotion—Equipment.

The strength of the class tells much upon the individual progress. A number of children of different abilities cannot be taught by a rigid method. * "The child needs help during these formative years of the infant school stage. He has come into this world with a

* Child training through occupations, by Lucy Bone and Marie E. Lane.

natural heritage. He cannot be moulded into one pattern with all his companions, because the material at the teacher's disposal is different in every case. Each child has a certain number of innate tendencies varying in degree, and we must accept them and help him to develop or modify them as is most necessary to him in his preparation for life. Every method we use in the Infant school should stand or fall by this test. We should not ask ourselves, is it the best method for the instruction of any subject, but will this method help us to make the best of the instincts possessed by each child—to develop useful ones which are weak and to modify those which are strong? Hence it is often said that 'there is no royal road to knowledge.' In view of the above statements it is necessary that the class strength should be low.

Admission must be regulated by a good test. If after admission or promotion, a pupil is found to be much below the standard, it will be advisable to send him to the next lower class. If the parent had been informed of the child's performance time after time, he could be brought round to see the advisability of the procedure adopted by the school. Equally so, really bright children can be sent up to the next class even during the middle of the year if they should show real advancement. Promotion thus is not determined solely by the annual examination.

The school ought to be well-equipped with teaching apparatus, library, etc. The use of apparatus is very necessary in dealing with backward pupils. New apparatus will however suggest itself to the right thinking teacher. Take for example, the collection of used Indian stamps to the value of one rupee.

This will facilitate the teaching of money relations and fractional tables.

11. Head Teacher's Favourites.

The head-teacher will take note of all the backward children of the school and divide them into convenient batches for his instruction. He pays special attention to each batch in his morning and evening free time in his own room. It is an opportunity for bringing into play all his richest experiences in teaching method and applying them with regard to these children.

Not only does he realise the difficult problem of the teacher but finds out ways in solving them, and sets a great example to the teacher. The parents of these children will doubly be grateful to the head-teacher.

12. Responsibility of the whole school.

To turn out a better quality of work the whole school is responsible. Wherever the subject-matter system is in vogue, it is highly essential that in considering the importance of their subjects, they must first realise the importance in relation to the Three R's and to the life of the child. In conclusion better quality of instruction means more sacrifice on the part of the teacher apart from all other considerations. The leisure time has to be well spent in thinking out new devices to get over the class room difficulties.

IV. EDUCATIONAL EXPERIMENTS IN OTHER COUNTRIES TO OBTAIN MAXIMUM OF INDIVIDUAL DEVELOPMENT.

The Dalton Plan.

It seems to be very necessary to acquaint the readers with some of the features which aim at individual progress. I should place the 'Dalton Plan' in the fore-ground. But as this article bears upon the working of the

elementary school, I should like to confine the suitability of the method to the elementary school. The advantage of the method is indicated in the following words: * "In the elementary school, it is the brilliant child that suffers most. He has to keep in step, he must always subordinate his inclinations; the hare and tortoise must run together in harness. The ignoring of personal tastes is indeed the most tragic result of bad teaching. The dull child, the brilliant child, the peculiar child are all thorns in our side, even the abnormally small or the abnormally tall child presents practical difficulties—any child who cannot be standardised, we regard as a misfit."

Seeing from the standpoint of village school conditions with their lack of accommodation, equipment and staff, I am sure that the system cannot be worked in Indian elementary schools. But where the above conditions are adequate and satisfactory the plan may be taken up for the teaching of special subjects such as Number, Handwork, etc. It is here we have to pay more individual attention. Before working out the plan the school should equip itself with all preliminaries such as Exercise cards, Report-cards, Reference books, Text-cards, etc. More than all these, the teacher who works this plan must show enormous patience and sympathy with children and must take to the writing of Test-cards and Reports and correction work in a cheerful manner.

2. Visiting Teachers.

The second point that strikes me is the visiting teacher system prevalent in New York. The Report on Elementary Education in New York as presented by Miss C. Gordon shows that these visiting teachers interview

the parents with regard to the deficiencies of their children. Thus both the home and the school are brought into close touch and the individual progress is thoroughly ensured. These visiting teachers study the class teacher's reports, the medical inspector's reports and thus gain a thorough knowledge of the individual.

3. The Calvert School Home Training Courses.

This school in Baltimore in U. S. A. undertakes to instruct boys through post. It supplies books, Test-cards and daily routine work. The school affords instruction to pupils who live at a distance by sending the required books and school requisites.

4. "Parents attend School."

Under the above title a short article from the *Educational Supplement* of the *London Times* was reproduced in the *Educational and Literary Supplement* of the '*Hindu*' of Madras. The following quotation from the said article gives the object of this organisation. "The object of the scheme which the Headmistress of the Handside Junior School here has evolved is simply to prevent any clash between the admirable interest of parents in children's work and the methods in use at the school. She has now arranged to hold a class for parents at the school on alternate Thursday evenings."

V. OUR GREAT DRAWBACKS.

1. Poverty.

In the foregoing paragraphs we observed how the school comes into close contact with the home. The people of those countries are mostly educated while the appalling illiteracy of the masses in our country is responsible for the slow growth of education. One real cause is poverty. Poverty is a great obstacle

for the rapid advancement of education. 'A healthy body has a healthy mind.' Under the circumstances many parents have no time to think about the education of their children. Their whole time or at least the major portion of the time is occupied in finding means to protect the family. The rest of the time is spent in broodings and cares. On the whole the outlook is not one of cheerfulness. My own personal contact with children shows that a number of boys do not take their afternoon lunch. How can a teacher expect such boys to be attentive and take interest in the afternoon lessons? Pupils coming from a distant place take their meals an hour before their usual time and before they reach the school they feel too tired to do any mental work. The medical officer's reports indicate the remarks 'malnutrition' or 'underfed' in a majority of cases.

2. Want of Public Opinion.

An elderly gentleman of the village who is dissatisfied at the present educational system simply says, "I see before me a race of weaklings in body and mind. We in our younger days would walk 3 to 4 miles in the morning, and would dig the whole garden. As for mental attainments we memorised all the tables in our seventh year and we would do any bazaar or interest calculation according to the indigenous methods in no time." The above remarks are not entirely false. But should we not be more optimistic about the future? So in our country public opinion is either not well formed and in cases where it is formed it is only antagonistic to the forward movements in education. The reason is laid at the teacher's door that he himself is neither in sympathy with present day movements nor is he able to construct one for the future. It is just the time when our

energies should be turned to the great task of educating public opinion towards the modern educational developments. The older generation does not see eye to eye with the present generation. They seem to think that our methods are too soft and tender. The present situation as created by the dawn of New India requires adjustment and adaptation between the young and the old and the past and the present. This is equally true in the case of the educator and education.

3. Single Teacher Schools.

Enough has been said about the presence of these schools. This system is a great obstacle for individual progress in pupils. It is physically impossible for a single teacher to attend to a number of boys who are of different grades and attainments.

A Suggested Remedy.

One remedy would be to start village and town clubs for parents to meet in a common cause as the education of the child. The school should be the centre of attraction for the village and the teacher should make the members of the village club realise the need for and the value of new methods in education. Thus the village club is itself a parental association and acts as the beginning in the solution of 'adult education' in the village. The officers visiting the village should evince interest in the working of the club and lend their fullest support if it works on right lines. This is a means by which the several activities carried on in towns will find their way into villages also. The sooner we touch the hearts of the villagers, the better would be the quality of education turned out. At present the enormous talk of the towns is heard nowhere in the villages.

VI. WANTED A GREAT ORGANISATION.

What is required therefore is a great organisation of a band of workers inspired to

* The Dalton Laboratory Plan, by T. P. Wann.

work for the cause of elementary education. More than the large number of workers that constitute this organisation, it is the large amount of work turned out by the organisation that should open the eyes of the public. This organisation or the central bureau should consist of a number of sub-committees to attend to different branches of work connected with elementary education. The following are the several branches of this great organisation:—

1. A Touring Educational Exhibition.
2. Publication of a Teachers' Monthly.
3. Publication of a Children's Illustrated Weekly.
4. Storage of Apparatus and Appliances.
5. Organisation of Village and Town Clubs for parents and educated classes.
6. Opening of Reading Rooms, Library and Adult Education centres.
7. Studying educational experiments in this and other foreign countries and embodying the observations in a supplement to the Teachers' monthly.
8. Collection of toys for child education and books for school studies.
9. Preparing pamphlets for home training of children, posters for display in propaganda work.
10. Organising Educational Weeks.

The Celebration of the Educational Week.

The celebration should not be confined to a particular week of the year. This should be going on in the several parts of the Presidency and should be going on throughout the year. In each month we must be able to hear of the celebration in some part of the Presidency. The following points deserve the consideration of the organisers:—

- | | |
|---|--|
| 1. Child education. | } Connected with Elementary education. |
| 2. Elementary education — Urban and Rural. | |
| 3. Adult Education. | |
| 4. Children's sports. | |
| 5. Children's Exhibition of Hand-work, etc. | |

The new methods should be broadcast by illustrated posters and pamphlets. A new awakening ought to be created in the masses for seeing the values of the method of new education which are always blended with the good features of the old. The important aspects of village life should not be ignored in the instruction in village schools. The training course, the scheme of work, the text-book, all these should cater to the needs of these two distinct types of school, namely, urban and rural. Having created an awakening, we must be prepared to impart the best form of instruction that would satisfy the requirements of the parent, and the good of the country at large. The teachers themselves have to acquaint themselves with the new method of education through these educational weeks, demonstrations, exhibitions and other means open to them. The educational week by itself should be an eye-opener to the teachers themselves and should reveal to them the tremendous changes that await the reformer as a result of the large developments in the world of education. This is also a means by which the appalling ignorance of the masses can be made to disappear gradually. Before educating children our primary work consists in educating the village and the people of the country. In this respect any cost incurred in the celebration of the 'Education Week' cannot be considered as a waste. By these demonstrations, the schools

PRIMARY EDUCATION*

[With special reference to the conditions in British Gujarat.]

will be made a great centre of attraction of the villagers not only during the educational week, but at other times of the year.

CONCLUSION.

Therefore it is clearly seen that the problem of individual progress is not only the concern of the teacher, it is a problem that should confront the whole people. The outside influences such as social and community life of the boy very much react in the class-room. The school life is only a short period in the life of a citizen. It is not only given to the teacher to study individual development and talents, but it is also extended to the home and world at large. The appreciation of individual attainments in the class-room is the beginning of the appreciation of the talents of the country outside the school-room. Especially in a time when we need Indian talents to appreciate our past and work for the good of our own future, it is necessary we should concentrate our attention to bring about a healthy and all-round development of the school population. It is open to teachers to make any experiment in the class-room so as to ensure the maximum progress in each pupil according to his capacity, environment and opportunities.

KALIDASA

Being a critical appreciation of his works
IN TAMIL

By K. S. RAMASWAMI SASTRIAR, B.A., B.L.
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"No one is so simple as to imagine that a system of universal education will necessarily mean an end to all our ills, or that it will open out to us a new heaven and a new earth. Men and women will still continue to struggle with their imperfections and life will still be a scene of injustice and suffering, of selfishness and strife. Poverty will not be banished because illiteracy has been removed, and the need for patriotic or philanthropic work will not grow any the less. But with the diffusion of universal education the mass of our countrymen will have a better chance in life. With universal education there will be hope of better success for all efforts, official or non-official, for the amelioration of the people—their social progress, their moral improvement, their economical well-being. With universal education the mass of the people will be better able to take care of themselves against the exactions of unscrupulous money-lenders or against the abuses of official authority by petty men in power. With 94 p. c. of our countrymen sunk in ignorance, how can the advantages of sanitation or thrift be properly appreciated and how can the industrial efficiency of the worker be improved? With 94 p. c. of people unable to read or to write, how can the evil of superstition be effectively combated and how can the general level of life in the country be raised?"

With such eloquent words, our departed leader and high-souled Servant of India, Gopal Krishna Gokhale pleaded for the cause

* A Paper read by Mr. P. K. DESAI, B.A., S. T. C. D., School Board Administrative Officer, Ahmedabad Municipality, at the Fourth Session of the All-India Federation of Teachers' Associations, held recently in Bombay.

of universal education at the bar of the Imperial Legislative Council while moving his Elementary Education Bill. Sixteen years have come and gone since then; and in spite of the efforts for the wider expansion of Elementary Education by our patriots in the Legislatures, the condition of Elementary Education in our country remains practically the same as it was sixteen years ago when the late lamented Mr. Gokhale first mooted the question in the Imperial Legislative Council, and the high hopes, that were entertained for the wider expansion of elementary education after the transfer of the Department of Education in the hands of the popular Ministers, have remained unrealized. The following figures will speak for themselves. The latest figures that are available are for the year 1925-26.

	Percentage of pupils to population.	Percentage of male pupils to male population.	Percentage of female pupils to female population.
British India	4.2	6.9	1.4
Bombay Presidency	5.6	8.1	2.1
British Gujarat	7.6	11.2	3.7

In India the percentage of the children of school-going age to the total population is taken to be 15 p. c. though in other countries it is rated much higher. Taking that percentage it will be clear from the figures quoted above that in British India, out of 15 children who ought to be in schools only 4 receive any kind of education, while 11 drift on without any kind of education whatever. Out of 15 boys only 6 boys attend school, while 9 boys receive absolutely no education. In the case of girls, the figures are appalling. Out of 15 girls who ought to attend schools only one attends school, while the remaining 14 vegetate quite innocent of even reading and writing in their own vernaculars. The cor-

responding figures for the Bombay Presidency are somewhat better, while it is gratifying to my vanity that Gujarat so far as the expansion in elementary education is concerned can boast of more encouraging figures. But these figures do not correctly indicate the true state of elementary education. They take no account of the huge wastage in the Primary Schools, especially in the rural areas. Of those that attend schools in the Infant class hardly 15 p. c. continue in schools till they pass the Vernacular 4th Standard examination and even much less finish the upper primary stage of education to say nothing of the secondary education. It is a matter of common knowledge that a child is not likely to remain literate unless he has passed at least the Fourth Vernacular Standard and thus so many as 80 p. c. or even more of children who attend schools in the Infant class and lower standards of Primary Schools quickly relapse into illiteracy. Moreover these figures, as the Director of Public Instruction so nicely puts in his Report of 1925-26, are for urban as well as rural areas and include children of the advanced classes, who almost invariably complete the Primary course, it will be realized that the extent of the wastage among the backward and the rural communities is greater even than the figures disclose.

The chief cause of this appalling illiteracy in the rural area is want of facility for the children to attend schools. At present in the Bombay Presidency there is only one school for an area of 10.3 square miles. If we take into account the numerous schools situated close to one another in big cities like Bombay and Ahmedabad, it can safely be calculated that for rural areas there is only one school for an area of 13 square miles. At present there is only one school for 2.2 villages. Here

too if we take into account numerous schools, situated in big cities, we can safely say that for rural areas there is only one school for 8 villages, i.e., out of 8 villages, 2 villages are without any facilities of schools for children to take even elementary education. In British Gujarat the total number of District Local Board Schools in 1923-24 was 1611. In 1927-28 the number remains the same 1611. In Gujarat out of 5 districts, the administration of Primary Education in four districts rests with the Government and yet not a single new school has been opened since the passing of the Primary Education Act in 1923 in spite of insistent demands from all quarters for the opening of new Primary Schools in rural areas.

The reasons for this unsatisfactory condition in the expansion of Primary Education are said to be financial. Government bluntly say that they have no money for further expansion of Primary Education and consequently they had to hold back the schemes submitted by various local authorities for expansion of Primary Education either on voluntary or compulsory basis. I do not claim to be a financier and therefore I do not venture to suggest any ways and means for getting more money to meet the cost of expansion of Primary Education. But I fail to understand why generation after generation of children should be allowed to vegetate without even getting the benefit of Elementary Education because a decade and a half ago we had to face an ugly war or because public money was squandered on highly ambitious projects of doubtful utility. I refuse to believe that statesmanship is wanting for finding out ways and means to get money for education. If there is a will to get money for education, the way for it is

bound to follow. I think financial reasons are not the only reasons that retard the progress of Primary Education in this Presidency. There are administrative reasons as well. Before the passing of the Primary Education Act, the whole responsibility in the matter of the expansion of Primary Education in the rural areas rested with Government. The Primary Education Act cleverly shifted that responsibility from the shoulders of the Government to the shoulders of the District Local Boards, though in the terms of reference of the Chandavarkar Committee, whose outcome the present Primary Education Act is, the transfer of the administration of Primary Education to District Local Boards was not at all mentioned. I strongly hold the opinion that just as it is the main function of the State to preserve law and order, similarly it is also the main function of the State to provide means of education, especially of elementary education for the people. Holding as I do this opinion, I submit that the whole responsibility of Primary Education, both financial and administrative, should be borne by Government. I think unless this is done there is no hope for universal education in our country. It is for the State to completely finance the schemes for the expansion of Primary Education. It is not enough for them to cleverly shirk the financial responsibility by merely declaring their policy that they would give grants-in-aid to the local authorities if their funds permitted them to do so.

Having treated so far the question of expansion of Primary Education, I now come to the question of efficiency in education. Quantity and quality are so intermingled one with the other in the matter of education that it is futile to make an effort to separate the

one from the other. To argue that we need all the money we have at our disposal for the expansion of elementary education and therefore we cannot spend any money for improving the quality of education is simply fallacious and yet such a fallacious argument is very often seriously put forward by Government in their Reports and Press Notes. To pay exclusive attention to merely increasing the number of pupils in elementary schools without paying the least attention to efficiency is bound to be barren of any substantial results and the money spent upon such a policy is simply a huge waste, which a poor country like India can ill afford.

The number and quality of teachers, curricula, text-books, methods followed in imparting education, school buildings, furniture, equipment, &c., all contribute to the efficiency of education. In a short paper like this, it is not possible to treat all these subjects at any length. I, therefore, propose to treat at some length some salient points, avoiding technicalities altogether.

To make education efficient, the first and the most important requisite is a sufficient number of competent teachers. Unfortunately this most important requisite is almost neglected in the administration, of our elementary education. Most of our primary schools are under-staffed especially in Local Board areas. Not a single school has a separate headmaster. During the last four or five years, i.e., after the passing of the Primary Education Act, although the number of pupils in the District Local Board Schools in Gujarat has increased by nearly 7000, the number of teachers has increased by only 25!! The Director of Public Instruction in his Report for the year 1925-26 writes that nearly 49 per

cent. of the Elementary Schools are one-teacher schools. This one teacher in most cases has to teach three, four or five classes at a time. There is no wonder if under such circumstances the teacher hastens his pupils through the prescribed course regardless of the method of teaching employed or of the quality of the work done. To improve this state of things, it is absolutely necessary to provide at least one additional teacher for every one of these one-teacher schools. Even in the smallest schools, teaching beyond the Infant class, at least two teachers are absolutely necessary. Unless the teaching staff in these Elementary Schools is increased, there is bound to be stagnation and huge wastage in them. At present about 1/3 of the pupils in the Primary Schools are in the Infant class and about 45 p. c. of them are unable to go beyond that class.

Next to the question of number of teachers in the Primary Schools comes the question of the quality of teachers.

After the passing of the Primary Education Act not only has there been no growth but there has been a positive set-back in that direction.

After the passing of the Primary Education Act, Government have inflicted deadly blows on the institutions for training teachers for Primary Schools on the amazing plea that they need all the available money for the expansion of Primary Education. All the District Training Schools have been closed. The number of teachers under training in the P. R. Training College for Men and the Mahalaxmi Training College for Women at Ahmedabad has been considerably reduced and by introducing the principle of communalism in selecting teachers for admission

to these training institutions, Government have considerably marred the efficiency of these institutions. The period of training of the teachers has been reduced from three years to two years; and by materially limiting the number of teachers to be admitted to the second year class of these training institutions, Government have practically limited the training of most teachers to one year only.

Government by their Resolution No. 1714, dated the 9th July 1918 of the Educational Department, had, after full and detailed consideration of the direct and indirect cost, definitely decided to employ none but trained teachers in Primary Schools in future. But within a short period of 5 years they seem to have given up this decision and at present 50 p. c. has been laid down as the minimum proportion of trained teachers in Primary Schools. Rule 58 of the Rules under the Primary Education Act says: "of the teachers employed by the local authority not less than 50 p. c. or such other proportion as may from time to time be fixed by Government shall be trained teachers and not less than 15 p. c. or more than 30 p. c. of the total number of teachers employed by the local authority shall hold the 2nd or the 3rd year certificate." One can very well understand Government fixing the minimum proportion of trained teachers to be employed by a local authority with a view to keeping the schools fairly efficient. But Government have actually prevented the local authorities from making their Schools highly efficient, if they choose to do so by fixing even the maximum proportion of 2nd and 3rd year trained teachers, to be employed by a local authority. Again although this rule merely fixes 50 p. c. as the minimum proportion of trained teachers to be employed by a local authority, when a local

authority proposes to depute teachers to the Training Colleges, these teachers are refused admission to the Training Colleges on the ground that it has already got more than 50 p. c. of trained teachers in its service. Thus what the rule lays down as merely minimum proportion, in actual practice, is changed into the maximum proportion. I submit that it is now high time to revert to the policy laid down by Government in their G. R. E. D. No. 1714, dated the 9th July 1918, that none but a trained teacher should henceforth be employed in schools. Dr. Ganapati S. Krishnaya so nicely puts it in his recent article on *Philosophy of Education*: "There is no room for improvement in education until education is placed on the same professional basis as Medicine, Engineering, etc. If a mechanic is not supposed to dabble in Medicine and an Engineer feels entitled to brush aside lay interference, why are the portals of the Educational Department alone kept so wide open as to be indiscriminately hospitable" to any body and every body?

The Director of Public Instruction in his Report for the year 1925-26 rightly observes: 'What matters is not so much the curriculum as the way in which it is taught. It is the teacher's outlook that is all important.' It must be the experience of all those, who have come in touch with our present Primary teachers, that barring a few exceptions, as a class, their outlook is very narrow, their intellectual capacities very poor, and they have neither any character nor moral backbone. It is therefore necessary to change this class of teachers in order to make education more efficient. I believe that it is not at all possible to improve our elementary education without changing the present class of Primary teachers. Time has now come to

recruit Primary Schools with Matriculates and Under-graduates after giving them training for two years.

In a short paper like this, it is not possible to dilate at full length upon teaching methods, text-books and curricula. I cannot however let go this opportunity without pleading for more freedom to local authorities in the matter of text-books and curricula. The present practice of allowing the use of only those books as text-books, prize-books and library-books in schools, which are sanctioned as such by Government should be done away with. Such a practice is highly detrimental to the free growth and development of Primary Education. The local authorities should be permitted to select their own text-books, prize-books and library-books. Government may, if they choose, publish from time to time a list of suitable books which they recommend for the use of schools, and at the most they may keep the power of vetoing the use of some books on moral or political grounds, but in the latter case, they should clearly specify full reasons for vetoing the use of these books.

Likewise in the matter of curricula, Government should give free scope to the local authorities and should not insist upon their sanction if the local authorities desire to change or modify the prescribed curricula. For the fourth standard examination, which is in a way a kind of Entrance Examination for admission to Secondary Schools, a minimum course of studies may be prescribed. For the highest standards in the boys' and girls' schools there are Vernacular Final Examinations, which will indirectly control the curricula of higher standards. For the Intermediate standards, the local authorities

may be permitted to introduce any additions and alterations in the curricula, suited to the local conditions. I believe nowhere in the world the State has such a hard and fast control over the curricula of schools.

The administration of Primary Schools in this Presidency is conducted according to the Bombay Primary Education Act of 1923 and rules framed by Government thereunder. This Act was a hasty piece of legislation and it has given satisfaction to none. Khan Bahadur Bhutto in his evidence before the Hartog Committee styled that Act as a huge farce and a fraud. I would not venture to go so far, but if I had time, I would take section by section of the Act and point out where it requires to be amended. There is absolutely no doubt that the Act requires to be radically amended. In the short time at my disposal, I would only try to point out the chief defects in the Act with a hope that Government will shortly make their way to amend the Act. It is necessary to define the term "local authority" in the Act afresh. Smaller Municipalities, who are incompetent, and whose financial position is not so strong as to enable them to administer education, should not be permitted to be "local authorities" under the Act. The policy of permitting any and every Municipality to be a local authority under the Act has made education highly inefficient and the poor teachers, serving in these Municipalities, have often been clamouring for pay as sanctioned by Government, which they do not always get.

The Act is wholly silent in regard to Government contribution to the voluntary expansion of Primary Education. As it is as much the duty of the State as it is of the local authorities to bring about the expansion of Primary Education; there should be a statu-

tory obligation on the part of Government to contribute their quota of the additional expenditure on account of the voluntary expansion of Primary Education also.

The intention of the Primary Education Act is certainly to create autonomous School Boards. It is therefore necessary to safeguard the independent nature of the School Boards by a clear and unequivocal section of the Act. The words "general control" in Section 4 (1) of the Act have created a great deal of confusion in the administration of the Act. These words may either be deleted or the nature of the general control may be specifically defined.

The next question is in regard to the Administrative Officer. The Act styles him as a Chief Executive Officer of the School Board. The Act, therefore, should see that he is actually so. In the first place, it is the duty of the Government to see that an experienced and capable man is appointed to the post. For that purpose Government should clearly lay down in the Act the requisite qualifications for the post of the Administrative Officer. His position also should be safeguarded just as Government have safeguarded the position of

the Chief Officer of a City Municipality in the City Municipalities Act. Again just as a Chief Officer of a City Municipality is vested with certain statutory powers for the efficient administration of Primary Education, it is necessary that the Administrative Officer should be vested with certain statutory powers, especially when communal and party spirits are at present so rampant in our District Local Boards and Municipalities.

In conclusion, I may be permitted to quote the message of His Majesty the King-Emperor delivered sixteen years ago when he was pleased to visit our country. The message says: "It is my wish that the homes of my Indian subjects may be brightened and their labour sweetened by the spread of knowledge with what follows in its train a higher level of thought, of comfort and of health." Let the servants of His Majesty in India keep these noble words constantly before their minds and so discharge their duties and responsibilities that future generations in this country may turn to His Majesty's declaration with the same fervent and reverent gratitude with which the people of Japan recall their Emperor's famous rescript of 1872.

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"A RECONSTRUCTION OF OUR EDUCATIONAL SYSTEM."*

By Mr. E. M. JESUDASAN, B.A., L.T.,

*Principal, Danish Mission High School,
Tiruvannamalai.*

THOUGH a great deal has been said and written, the subject of Education yet there is, I believe, room for some more thought and expression on the matter. I do not propose an exhaustive discussion on the correctness of any theories, but a simple matter-of-fact enumeration of deductions from existing circumstances and some suggestions for remedying these defects.

For the sake of brevity and clearness, I should like to confine myself to the kind of education that is imparted to our youth, with whose welfare and happiness we are primarily concerned, *viz.*, the Elementary and Secondary Education. In the first place let me confess that education in the broadest sense of the term, as serving the purpose of lifting humanity and as spreading over the sons of the future, is inconceivable and out of bounds for my limited capabilities. If one is to learn anything from the records of science or history, it is the rather humiliating fact that theories and calculations of one generation have been considered inaccurate and obsolete, if not altogether ridiculous and stupid, by the next generation.

Our horizon, even with regard to the possibilities of the present, is so circumscribed that though it may be right for philosophers to lay down theories and principles enunciating the eternal varieties, ordinary mortals dare not think beyond the next generation and their mundane livelihood. Keeping this

in mind, we may well ask what sort of men we expect the next generation to be, or what are we making them into. Every sane parent and well-wisher of his country would like that his children and the younger generation of his country were models of perfection in physique, in intellect and in character; and I trust that we would all agree that we are striving towards such an ideal. But a closer inspection would reveal the fact that though we have an ideal in view, the ideal is so hazy and ill-defined on account of our ignorance, traditions and wrong methods that we are yet a long way off from attaining anything like the semblance of our ideal.

But, in the meanwhile, the onward march of progress of the world as a whole demands that India should be supplied with men who could make their own mark and would mould the destiny of India for the good of her millions. India needs in every field of human activity, strong men, virile, honest and wise; not only men who will top the list in a University examination, but men whose knowledge, integrity and push will make them pre-eminently leaders in the department they have chosen. Put in other words, I may say, that we need our Huxleys in the field of Science, our Max Mullers in Oriental Studies, our Henry Fords in Industries and straight-backed keen-sighted men in every walk of life—in state, in society, in trade and in the professions. But looking about us, how few is the number!

No doubt, we are producing, in some one part or other of our country, a Sir J. C. Bose, a Tagore, or a Mahatre, but compared to the vast millions of India, with a heritage for learning and civilization for more than thirty centuries, it is but a poor result. To take a class-room example: it is like producing one

or two geniuses, securing cent. per cent. marks in all the subjects, out of a class of one hundred pupils; the rest of them being far below the average, and a large majority of them being mere ciphers. Such a result would argue that the geniuses were not the product of the class-teaching but that by their innate ability had secured distinction *in spite of* the class-teaching. May it not be, then, that our educational system is at fault? If it were not, should it not produce a fair number of such geniuses and an appreciable majority of intelligentsia of more than average capacities? If it would, then we would be right in arguing that our educational system is sound in its principles and that it had fulfilled its purpose.

But some times it is said that our present educational system is only a product of our social and political conditions, or at least that it is very much influenced and shaped by a consideration of those conditions. But we must at the same time remember that the removal of social, economic and political disabilities depends a great deal on the sort of men who are leaders and their outlook on the education of their country. Hence, such an argument is only begging the question. A sound educational system would not only meet the needs of a nation, but would go to give its men a capacity for expansion, of striking out new lines of thought and action, in short would make them pioneers in the onward march of civilization.

Considered as such, what about the system of education that is now given to our children in South India? First there is the Elementary Education which aims at giving literacy to the large mass of our children living in the villages. Considering the num-

ber of years that there are spent in getting this Elementary Education, the standard of attainment demanded from a pupil of the 5th class is very poor. This, I am afraid, is due to the inclusion of a number of subjects which sound big in educational parlance but which possess very little real value to the needs of the villager. Subjects like Nature-Study and garden, for which almost 8 or 10 periods a week are allotted, is nothing but a replica of the vegetable garden found in the back-yard of every Indian home. Then there are those inane things that are presented as Indian History, containing very little matter for children to read or to remember, which create any thing but patriotism or love for one's past; as also the unrealised possibilities of a district or presidency geography as they are at present written and taught. Has the villager any use for the subjects that he studied in his village schools? How much of it does he remember and put to practical use? (A folk-school or an adult-school may accomplish something, but at the elementary school it is certainly too early to attempt to work out with any degree of success the present curriculum). Excepting for the reading and writing and a little bit of arithmetic (the four simple rules), the rest of the instruction he has received, goes completely out of his mind; and naturally so, as he has no use for them.

Would it not then be right to suggest a reconstruction here? Obviously then, the curriculum could be much lightened by the elimination of what are called general knowledge subjects, raising the standard of vernacular instruction, making it possible for a twelve year old boy to read and understand intelligently portions of Tamil literature, thus giving him a desire to increase his

* A lecture delivered at the meeting of the N. A. Teachers' Guild.

knowledge of his mother-tongue and incidentally of his mother-land. The arithmetic should be of a type that would help the villager to calculate his yield, appreciate market quotations in the papers, draw a plan of his lands or his house and calculate its measurements, so that it is a real asset to him. A flower garden, laid out with an eye to beauty or free-hand drawing with colour-work may be included to cultivate the æsthetic sense, of which there is an appreciable lack amongst many of our village brethren. But the rest of the curriculum would, I believe, go out unmourned and unwept both by the pupils and their parents.

I do not touch upon the question of providing suitable books or the difficulty of securing well-equipped teachers, simply because authors write books to meet the demands of schools, and teachers would have to equip themselves if they are to continue in their work, pay them well or pay them ill.

Coming to that department of educational system of which we form a part, I may have to ask you for a patient hearing, as Secondary education, its evolution or revolution is a favourite and pleasant theme for criticism and discussion for almost any one excepting ourselves. The fact of the matter is that, just as we have had no voice in choosing our parents, or the conjunction of stars at our birth, we have, for no choice of our own to work out a system whether we agree with it or not. And just as the Tamil adage has it, "One who is married to an ass shouldn't be afraid of kicks," we have to take criticisms and opprobiums levelled at our heads with the calmness born of such a marital tie. Of course, there was a time when we were keenly alive to the defects of our

spouse, the S. S. L. C. course, but we have got used to them and now we are actually so enamoured of her that we are prepared to go into hysterics, when there is a talk of remodelling her so as to suit.....(somebody?). I say somebody because I do not know whom it would suit. Now at least it suits the Secondary School teachers, though it does not suit the pupil, the parent, the Government or the University. But with the change, whom? that is the question.

That Secondary education should form preparatory stage to the University, no one can gainsay. But that it should be so worked in detail as to suit only the needs of a University whose ideals may or may not be consonant with the true advance of knowledge and civilisation, is illogical, unscientific, and disastrous to the youth of the country. Anyhow, as Secondary education should be to a certain extent in line with that of the University, I could not escape touching upon University education as well. I know my own limitations and I confess I am not competent to speak on University Reforms, but I trust you will bear with me for just mentioning a few observations which I leave to you to accept or reject.

The first is that a University does not exist simply for the sake of conferring degrees upon candidates who pass its examinations, the curriculum for which examinations were dictated by the admirers of some foreign Universities and modelled on similar foreign notions, some three quarter of a century back. Though prescribing examinations and conferring degrees are a part, and a necessary part of a University administration, yet we could not lose sight of the fact that the essential objects of a University are that of assimilating all available culture, present

and past, and directing the intellectual progress of its youth on sound lines based on experience and foresight.

Secondly, unqualified spirit of conservatism combined with a fond attachment to old-time traditions is a condition that does not contribute to real intellectual progress in a University. Such a condition is symptomatic of self-importance born of intolerance and an incorrect estimate of existing conditions. Allowed to exist as such, the University, instead of being a contributor to the wealth—intellectual, social and economic, of a nation, instead of ministering to the needs of its people, allows itself to become an autocrat, the recipient of flattery and a dispenser of empty titles and honours.

That an attempt is made to remodel our University activities in the light of present-day conditions in South India is somewhat evident. But that under the present conditions, Secondary education should be solely at the dictation of the University cannot be upheld for more reasons than one. The first is that a large majority of those who take a Secondary School course do so, not with the view of entering the University, but that they may, if possible, find a vocation where they may make themselves useful. They either choose one or the other of the few professional courses open to them, the Medical School, the Teachers' Training School, and the Mechanical or Electrical Engineering Schools, or directly enter Government, Railway or private service as office hands. And then, there are also a few who take to the course, not with a view to utilise it in securing an employment, but just for the sake of getting a better education combined with some English knowledge; which,

they expect would stand them in good stead in running a firm or business of their own on up-to-date lines. The number of such pupils, though very small at present, is bound to increase in the near future.

Remembering then that there is such a large majority whose goal is not a University course, one cannot but ask whether the eligible list, towards which all employers seem to converge, could be a good criterion of the fitness, proficiency and intelligence needed for the vocations they would choose. We cannot deny the fact that what would go to make a brilliant University career does not necessarily make for success in the vocation held out to the S. S. L. C. man. Hence, you will kindly excuse me if I mention some of the differences, differences that exist between the needs of a University specialist and an office hand. Though a fairly good knowledge of English is essential to both, viz. to the University as well as the professions mentioned above, you will admit that an undue specialization in two or more subjects resulting in the omission and complete ignorance of subjects of every-day importance is not a satisfactory requisite for an S. S. L. C. course. And further, in these days of keen competition and unemployment, the S.S.L.C. young man cannot easily find work in his own province; and it is becoming more and more a necessity that the young man cannot be satisfied with a knowledge of his mother-tongue and English only. It would be in the interests of the candidate if he possess a fairly good knowledge of English (spoken and written), his own vernacular, clear ideas on the geography and history and government of his own country, a knowledge of mathematics that would help him in any commercial house, a good handwriting

and lastly a working knowledge of a second Indian language.

I have put all these subjects together, not only to emphasise their importance but also to try and show you how it is possible to redistribute the items in our curriculum, so as to suit changed conditions. So far as English is concerned, I believe that it has been worked out better than the A. Group vernacular, and the only suggestion I have to offer is that the selections should be more modern, and that the 2nd paper be made a much more real test of the pupils' ability to cope with ordinary correspondence in an office; a special column for oral work, along with that of the handwriting in the S. S. L. C. Register would be a valuable provision. So also would be the elimination of some portions of the Elementary Mathematics syllabus, those relating to mensuration and the inclusion of mathematics bearing on account-keeping, etc. The vernacular translation and composition may not only be made to include some more literature, but must form a sufficient test of the candidates' original work, as composition and letter-writing.

But the presence of the optional subjects and their early specialisation, though serving the purpose of a preparatory course for the University, exercises an unwholesome influence on the pupil, in that it accentuates the peculiarities and the deficiencies of each particular pupil and does not help him to correct his oddities and perfect his mental development. It is on account of this drawback, that I would like to suggest that the two optionals were substituted by a syllabus of (1) Geography, Indian History and Government, and (2) a second Indian language preferably Hindi or Hindustani. The

knowledge of a second Indian language cannot be much insisted on in a country of diverse languages like India. The Government realising the necessity of such a knowledge have made it a test for promotions in most of the provincial services. I may also mention here the large number of young men who go out of the Tamil area, even into the Bombay and the Bengal Presidencies in search of employment, to whom the knowledge of a second language will be one of great benefit. As a great deal has been said about including Geography and Indian History in the A. Group, and as public opinion is strongly in support of it, I do not much dwell upon its merits.

The place of Elementary Science and British History in the B. Group could profitably be occupied by Manual Training and Elementary Physiology and Hygiene; or where manual training is not feasible, by a special course in Drawing; so that a boy leaving the Secondary School could be expected to possess a fairly good equipment of practical knowledge in using head and hands. For those who prefer a University, professional or commercial course, two optionals could take the place of the B. group subjects mentioned above (*viz.* Elementary Science and Manual Training or Drawing) and the Second Indian Language in the A. Group, and these subjects presented as additional subjects for the public examination.

One more point before I finish with this part of our system, *viz.* the issue of certificates to successful candidates. The S. S. L. C. Certificate, as it is at present in book form, is a cumbersome affair, and whatever appointment its holder seeks, the employer has a prejudice to look into and scrutinise the marks and to make up his mind from the

marks before him whether the applicant would suit him or not. It would help the candidate and the public much better if the successful candidate could be classified as 1st, 2nd or 3rd and a certificate issued to them giving a list of the subjects in which they were examined.

I am afraid that I have been rather dry with all these details, but it is because I believe that some of you will give your attention to these problems, and whether you agree with me or not, would work for the welfare of the pupils entrusted to your care. And one of the miseries of a teacher is when he meets a pupil of his in want and unemployed and unable to put his knowledge to any profitable use. I do not claim that my suggestions are a panacea for all the evils but they may equip the young man better to meet the demands of the times and assist him in quickly securing a job.

I have not touched much upon the physical or character development because, far more important than any rules or regulations, it needs men and women, both in the home and in the school, parents who would co-operate with the teachers in rearing up children of the right type. Till the nation as a whole appreciates character more than worldly possessions and a strong body better than a bright scholastic career or a high position, we may have to be content with trying to remodel only the intellectual side of education, employing all possible aids in our schools towards the development of physique and character.

In conclusion, I thank you all for the patient hearing you have given me and trust that our Guild may be interested in this matter so as to frame some working basis for the re-construction of school education in S. India.—*The South Indian Teacher*, March, 1929.

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COOPER, Publishers, BOMBAY.

"CO-OPERATIVE MOVEMENT IN INDIA."*

A REVIEW BY

Mr. T. K. HANUMANTA RAU, I. E. S. (Retired),
President, Triplicane Fund, Madras.

WE welcome this booklet as a very useful addition to the very scanty literature on 'The Co-operative Movement in India.' The author has read much, toured extensively in co-operative areas and has obtained a personal knowledge of the main co-operative problems awaiting solution, by discussing with the leaders of the movement in the several provinces which he has visited, on co-operative matters. He is one of those few prominent co-operators who sincerely believe that—

Co-operation properly organised and effectively worked will achieve both the economic and political salvation of India, and in this belief ventures to say that—

The efforts made by Gandhiji to get Swaraj have so far undoubtedly proved futile, and it is the wish of an earnest economist that the large fund raised by the Swarajists, may with profit be utilised in developing and enlarging the co-operative movement which will prove an effective remedy for removing the poverty of the Indian ryots.

He has divided the book into five chapters, the first being Introductory and devoted to the general principles of the movement. In the remaining four chapters he gives a concise summary of the working of the co-operative movement in all its phases in the four major Provinces of India—Bombay, Madras, Bengal and the United Provinces. His detailed study of the Hadapsar Co-operative Society,

* A Comparative Study by J. L. Rains, B.A., M.R.A.S. (London). (D. B. Taraporevala and Sons, 'Kitab Mahal', Hornby Road, Bombay). Price Rs. 2.

the Saraswat Housing Society, and the Triplicane Urban Co-operative Society, will amply repay the readers' perusal. In his search for an all-comprehensive definition of a co-operative society, he reviews the definitions given by the Dewan of Baroda, Dewan Bahadur Ramachandra Rao, ex-Registrar (Madras), Messrs. Calvert, Wallemberg, Rabbeno, Luigi Pizzamigglio and Dr. Emilio Cossa and come to the sober conclusion that—

In defining an ideal which is ever assuming newer and different aspects, it is necessary to avoid (these) specifications which may be true some given conditions of time and place, but are extrinsic to the essential idea.

In stating his views on the Provincial Co-operative Bank of Bombay, with its 12 branches, he rightly observes:—

But with all its commendable activities and its policy of steady expansion into all parts of the Province and keeping in constant touch with the primary societies, the Bank has a great drawback in that it centralises power in one superior financing agency. The ways of officialism and the policy of centralisation only impede the dissemination of real co-operative principles and knowledge among the people. But for this there is not much difference between a commercial financial agency and a co-operative financing agency. After examining the views of Sir Lalubhai Samaldas in support of these, he quotes Mr. J. M. Mitra, who says:—

I do not advocate the formation of branches of a Provincial Bank and even of district or of sub-divisional Banks, for such Banks will be controlled and dominated by their Head office while the local Central Banks we have in Bengal are federations of

local societies and the representatives of local societies play a leading part in controlling and guiding the policy of such federation. "What is true of Bengal is true of other provinces" says the author, unless in Bombay circumstances are such as necessitate the formation of such branches in the Presidency."

We will conclude this review by the author's views as to dependence on State support about which he says:—

The craze of depending entirely upon the support of the State even in initial stages, involves us in the risk of being in perpetual beggary and bondage, and at the same time, losing the virtue of self-reliance the very life of co-operation. Mr. Russell discussed a similar problem and condemned the Irish who, he said, had developed a belief in the powers of the State. He observed that—

When a man becomes imbecile, his friends place him in an asylum, when the people grow decadent and imbecile they place themselves in the hands of the State. Irish people have lost faith in themselves. The State has treated Ireland as a big incapable baby, unable to take care of itself, the official guiding, controlling and spoon-feeding it. The effect of the policy of Westminster is to turn the Irish into a race of economic babies with their lips ever nuzzling at the nipples of the State—modifying his views slightly by the statement that—

We should not apply this criticism to India to the extent to which Mr. Russell applied it to Ireland.

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Reviews and Notices.

WAVE MECHANICS, BEING ONE ASPECT OF THE NEW QUANTUM THEORY, by H. T. FLINT, PH.D., D. SC., READER IN PHYSICS IN THE UNIVERSITY OF LONDON. (METHUEN & CO. LTD., LONDON). 3s. 6d. net.

Messrs. Methuen and Co. are doing a very great service to the cause of science in projecting their "Monographs on Physical Subjects" to which the present book belongs. The series is "intended to supply readers of average scientific attainment with a compact statement of the modern position in each subject," being written by authors who are actively engaged in research on the subject.

The book under review contains a clear account of one of the recent methods of attack of problems of atomic physics, namely, that initiated by De Broglie and Schrodinger and known as "Wave Mechanics." The author does not deal with the other method originated by Bohr, Dirac and Heisenberg and known as Matrix Mechanics.

The book opens with an introduction touching on the several landmarks in the history of the subject, culminating in the necessity to regard radiation as having both a corpuscular and an undulatory character. The reconciliation of these two apparently divergent aspects is effected by reverting to classical mechanics and introducing what are known as "mechanical waves" on the analogy of optical waves.

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connected manner. The book is sure to be of immense value as an elementary introduction to the original memoirs on the subject.

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The Educational Review.

A publication of considerable interest to the educational world of India is the volume of the All-India Teachers' Federation, just issued by Messrs. Longmans Green & Co., containing the full proceedings of the last Conference of the All-India Teachers' Federation held at Bombay. Besides the Welcome Address of Principal Seshadri and the Presidential Address of Mr. George S. Arundale, it contains all the valuable educational papers read at the Conference. Among the more important papers may be mentioned *The Education of Adult Women* by Mr. G. K. Deodhar; *Extra Curricular Activities* by Dr. Krishnayya; *English Teaching in Colleges* by Dr. Parker; *Higher Education of Women* by Prof. Karve; *Education Abroad* by Mr. Vakil, and *Training Colleges and Educational Research* by Principal Hamley. The volume also contains a full account of the resolutions and the proceedings in connection with the various business meetings held on the occasion. Educational Conferences can be a success and do good to the country, only when they mark a distinct step in the advance of educational efficiency and pedagogic knowledge, and we are glad to find that this aim has been kept very well in view by the organisers of this Conference. In view of the fact that the next session of the All-India Teachers' Federation is to be held in Madras, this publication must be very popular in Southern India, and we hope that the proceedings of the Madras session will not be of less inter-

est than the record of the Bombay Conference. We are glad to find that the authorities of the South India Teachers' Union are already up and doing and the session promises to be a great success.

We learn that His Excellency the Viceroy has given his assent to the new Andhra University. Andhra University Amending Bill shifting

the head-quarters to Vizagapatam and freeing the district of Chittoor and the Ceded Districts from the jurisdiction of the University. It will not be contended by anybody that this is an ideal solution of the problem, but the leaders of the Andhra country and those concerned with the University must thank themselves if they have found themselves in this predicament. For years after the establishment of the University, the academic bodies themselves, not to speak of the members of the public, could not come to any decision regarding the head-quarters, each district being moved by such narrow parochial patriotism as to ask for the head-quarters for itself. There was not a single district in the so-called Andhra Desa which did not think it was good enough to be the head-quarters of the University, whether it had the necessary educational institutions or not and whether geographically, it was near or far to the bulk of the Andhra country. The agitation became so ridiculous that all kinds of compromises were tried and there was the absurd pact among some of the academic scholars that Anantapur should

become the head-quarters and Rajahmundry should be allowed to specialise in Science. It is therefore not surprising that all these considerations should have been swept away and Vizagapatam should have been made the head-quarters. We hope that those concerned with the University will develop some common sense at least now and gird their loins to the immense task lying before them, without indulging in petty wranglings any more.

A salubrious climate and an excellent situation on the sea-shore gives Vizagapatam, with Waltair in such close proximity, advantages of real value. It must also be remembered that Vizagapatam is on the highway to Northern India and can already boast of a number of educational institutions: a Medical College, an Engineering School, a Girls' High School and a Second-grade College, though the last does not enjoy at present the high reputation which it used to, when it had the privilege of having Prof. P. T. Srinivasa Iyengar as its Principal. When some of these schools are developed into colleges and the long-expected College of Technology also comes into existence, Vizagapatam should certainly be in no way inferior to at least Bezvada, an ugly Railway Junction, which can only boast of some commercial importance and which has not got even a single college of any kind in the town. As for the separation of the Ceded Districts, it is not much use complaining about that either, as in spite of what aggressive Andhra leaders may

say, there is not much in common between the Ceded Districts and the Northern Coastal Districts of the Madras Presidency. In fact, we shall not be surprised if even Nellore makes an attempt at securing liberation, preferring association with neighbouring Madras to that of distant Vizagapatam. In any case, we hope we have heard the last of this unfortunate controversy, and academic workers in the Telugu Districts will now concern themselves with the advancement of scholarship, which, if we may remind them, is the real work of a University.

It is the fashion on the part of some of our Anglo-Indian journals and newspapers to indulge in periodical attacks on the Indian educational system and the so-called "discontented B.A." Following this tradition, the *Pioneer* has much to say on the *Unemployed B.A.* in India in a recent article on the subject from which the following are extracts:—

Year after year, just about this time, an ever-increasing number of under-graduates find themselves launched upon the world by the examination system which prevails in Indian Universities, with some sort of a degree, and with the haziest of prospects for their future life. In a cheerful and optimistic spirit they have won their way from school to college, and in college, through their various examinations, without, in most cases, ever having given any serious thought to their future careers, or ever having been directed by the University authorities to consider their lives after graduation. In fact, Indian Universities seem to consider that they have finished their work when they unload upon the world a mass of graduates, and they appear to be

satisfied and justified in their existence, if only they can, year after year, show an increase in the number of graduations. There are countless cases of able young graduates, who, to-day, can look forward at least to two or three months' practical starvation, because they and their mentors have taken no thought for the morrow. It is a pitiable and distressing state of affairs. It is productive of endless social discontent, and it is no wonder that many of these young men, after finding disillusionment in their economic battle with the world, should fly to political extremes and become the ready prey of the unscrupulous agitator.

There can be no doubt, in the first place, that far too many graduates are produced each year. There can be no doubt also that the academic standard is too low, and that, even if it were not too low, in view of the capacity of absorption of the various professions in India to-day, the academic standard should, from the very first examination in the Universities to the last, be raised far above what it is to-day. In the second place, it is most necessary that from the very first moment in which an under-graduate appears at a University, his giving attention to his future career should be emphasised by the University authorities. There should be in every University a real Appointments Board, which should look after under-graduates in every stage of their academic career. There should be proper liaison between Government departments, that have posts to offer, and between all businesses, which are capable of absorbing fresh blood. At the present moment, the graduate first attempts the round of various Government competitive examinations, and, if unsuccessful, drifts to swell the unemployment at the Bar. The teaching profession should be more encouraged, and all the absurd restrictions, which the caste system imposes upon its members, and so prevents them from taking many posts, for which they might be fitted, should be abolished. The general system of education is also largely to blame. The Government and other educational authorities have concentrated on large and expensive Universities to the neglect of primary and especially technical education. The whole trend of education in India has been to

produce Government servants and not Indian citizens. There is a distinction, though perhaps Government would be reluctant to admit it. Primary education has been scandalously neglected, and it is only in recent years, that the problem of technical education has been recognised as existing at all. The Hartog Commission is supposed to have reported but its conclusions are still wrapped in official mystery. It is to be hoped that it will take this problem courageously and do something by way of remedy. The Universities themselves can do much, but it is to be feared that they will do little, unless they have a definite urge given to them from without, and a simultaneous change in every Government educational policy.

We should like to hear from the Editor of the *Pioneer* whether the Universities in England regulate the number of their graduates in accordance with the needs of the Government offices. Does he suggest that when young men come to Universities for higher education, the authorities should turn out some of them on the ground that they cannot find employment after taking their degrees? We confess that there is much room for the improvement of standards and conditions of education in Indian Universities, but we have no hesitation in saying that much of this talk about the so-called inferiority of standards in India is due to snobbishness. May we give the Editor the names of hundreds of England-returned Indians who had no difficulty in passing examinations in British Universities though they had been despaired of in India? If there is unemployment, it is not the Universities in India which are to blame, but a combination of circumstances one of the most important of which is the presence of a foreign government which is more anxious to find employment for its

own men from across the seas than for the children of the soil. The problem of unemployment of the educated middle classes in India will find satisfactory solution if there is sufficient statesmanship at the head-quarters of the Government of India and Indian interests are not always to be subordinated to those of England. Don't treat the superior services as a close preserve for the British, open the ranks of the Army and the Navy to Indians in the most unrestricted manner, advance Industry and Commerce, let educational qualifications and not racial distinctions be the sole criterion for appointment on the Railways and in such services as the Telegraph and other departments—there will be no more unemployed B.A.'s, struggling against a wall of political subjection and humiliations of various kinds. The problem of unemployment among the educated classes will be solved, not by writing stuff of this kind, but by finding the channels of employment, to which the children of the soil are entitled.

We wish to invite the attention of our schools and colleges

Some New
Magazines.

to some new journals
and magazines which
will be of special in-

terest to the youth of the country and fulfil a useful purpose in our educational system. The neglect of physical education in this country makes the appearance of *Athletic India* particularly welcome. It is an attractive monthly journal published from Allahabad and contains not merely valuable articles on physical culture, but also beautiful illustrations of physical development, Indian and foreign. It would be a real educa-

tion for students in our schools and colleges to find the journal on their reading room tables. Somewhat akin to this is *Sportsmanship*, a new journal published in America (the Sportsmanship Brotherhood, 342, Madison Avenue, New York City), the purpose of which is to stimulate and encourage the spirit of sportsmanship everywhere and to co-operate with the numerous agencies which have the responsibility for conducting similar activities. The Brotherhood is a non-partizan organisation and is not administrative or executive in its functions. We commend the code of sportsmanship as defined by this journal to the attention of our school-masters for propagation in the educational institutions with which they are connected.

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The Madras Mail, Friday, October 31, 1924:

Books which deal with the problems of educational psychology from the Indian point of view are too few and we, therefore, welcome most cordially one which makes such a study and makes it well. Miss Gordon's contribution to this field is one which ought to be read carefully and digested thoroughly by all those who have to do with the education of children, whether teachers or parents.

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 nature 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 200 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.

The Madras Christian College Magazine, January 1925.

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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In fine, this book bids fair to become easily a popular rival to the many books on Geometry now in the market—almost all of which are either American or English publications. We have real pleasure in wishing for this book an honoured place among the text-books now in use.

The Ernakulam College Magazine:—The author must be congratulated on the publication of this book which is indeed a very welcome addition to the existing books on the subject. It is intended for the student of the High School classes, though we would like every College student to go through it to get acquainted with the broad principles and the historical background of the subject. The method of treatment adopted will be much liked by students who will find the study of the subject quite a pleasant one. The work of the teacher is considerably lightened by the inclusion of interesting details which he may find difficult to get access to otherwise. The logical arrangement of the main propositions, the emphasis on practical applications and correlation to problems of every-day life, the human appeal to the pupil by means of historical notes and sketches and the very numerous sets of graded examples, are a few of the many interesting features of the book. We await with great interest the remaining parts of this book, dealing with Areas, Circles and similar Figures, which, we feel confident, will be on the same high level of treatment, quite in fitting with the long experience of the author as a teacher of Mathematics. We would however suggest that all the parts may be bound in one volume and published at a reasonable price.

Rao Bahadur P. V. SESHU AIYAR, I.E.S. (Retired), formerly Professor of Applied Mathematics, Presidency College, Madras, writes under date 10-3-1929:—A New Geometry for High Schools by Mr. A. A. Krishnaswami Aiyangar, M.A., L.T., is a book prepared to meet the special needs of the Indian High Schools. It follows closely the Madras S.S.L.C. Syllabus in Geometry for Group C and gives many exercises, practical, theoretical and numerical. One distinguishing feature of the book, not found in other books, is the historical and critical note added to many of the propositions. This relieves the student from the monotony of abstract reasoning, makes an effective human appeal to him and adds a life to the methods of teaching. His critical notes on 'superposition', 'parallel postulate', principle of duality, etc., are simply splendid and are likely to induce the advanced student to read more of rational and modern geometry. The book on the whole is well-conceived and written on most up-to-date lines and deserves to be used as a text-book in our High Schools in preference to other books in the field.

Mr. S. BALAKRISHNA AIYAR, B.A., L.T., Lecturer in Mathematics Teachers' College, Saidapet, writes under date 12-3-1929:—Dr. Vaidyanathaswami, M.A., F.R.S.E., of the University of Madras, has written the Foreword to Mr. A. A. Krishnaswami Aiyangar's book, "A New Geometry for High Schools." This ought to be a sufficient recommendation for the book being largely resorted to by teachers and students of the subject. The treatment followed appears to me to be on novel lines, following a kind of compromise between the Euclidean sequence and the re-adjustment found in the more modern text-books. The presence of notes, historical, philosophical and critical, should be attractive to the teacher and the interesting variety of exercises useful to the learner. I am awaiting with interest the appearance of the other three books.

The Mysore University Magazine, March 1929:—At the present-day methods of teaching elementary mathematics, particularly elementary geometry, are in the melting pot. The more theoretically-minded persons require for instance, discussion of the foundations underlying geometry, examination of the purely logical aspects, inquiry of the sequence or rational ordering of the subject matter, etc. Others desire "experimental evolution," "critical and anecdotal information," "permanent cultural and practical instruction," etc. In this book, it may be said that a judicious combination of both these has been attempted, and this tempts us to look forward to the rest of his series, of which, we are told, this is the first.

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