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A MONTHLY RECORD FOR INDIA

VOL. XXXVII.]

SEPTEMBER 1931.

[No 9.]

BOMBAY UNIVERSITY CONVOCATION ADDRESS.

BY THE REV. JOHN MCKENZIE.

Vice-Chancellor.

Mr. Justice Mirza Ali Akbar Khan.

THE Report which has been submitted to you gives an account of the most important events in the history of the University during the past year. I do not propose to go again over the same ground. But I do desire to associate myself with the tribute which has been paid to the Hon. Mr. Justice Mirza Ali Akbar Khan, whom I have succeeded in this Chair. He took office at a difficult time in the history of the University. The new Act was still unfamiliar, and the various University bodies had not fully adjusted themselves to the conditions under which they had to work. By

the ability, patience, courtesy and tact with which he guided the deliberations of the bodies over which he presided, Mr. Mirza rendered a service to the University for which he deserves our sincere gratitude.

Deceased Fellows.

Since the last annual Convocation death has removed four former Fellows, three of whom were distinguished educationists, and all of whom rendered valuable service to the cause of education and to the University. The Rev. Father Zimmermann was a much loved scholar and teacher, whose work as a Sanskrit scholar made his name known

throughout India. Mr. A. J. Turner was a leader in the growingly important work of technical education, and he did much for the advancement of the cause in Bombay. Mr. S. C. Shahani took a leading part in the educational and public life of Sind, and his services to the Dayaram Jethmal Sind College, of which he was for several years Principal, and to the Nadirshaw Eduljee Dinshaw Civil Engineering College, will be long remembered. Shams-ul-Ulama Dastur Darab Peshotan Sanjana was for many years one of the most prominent citizens of Bombay, not only because of his official position as High Priest of the Parsis, but also because of his distinction as an Oriental scholar and writer. We mourn the loss of these former colleagues, and we remember them with gratitude.

To the New Graduates.

Before I go on to deal with the subject on which I have chosen to address you to-day, I ask your permission to say a few words to that part of the audience on whose account we are gathered together—the men and women upon whom we have just conferred degrees.

Graduates of the University of Bombay, I offer to you my hearty congratulations on the success which has attended your work, and my good wishes for your success in the greater tasks that lie before you in the world. The world in which these tasks await you is in many ways different from that in which your fathers began their labours. It will not be by any means an easier world in

which to live and work. It is going to make great demands on your resources, intellectual, practical and moral. You have received a certain equipment, a certain training for life. This will serve to give you a start, but it will not by itself carry you far on the way. The man who is going to succeed in the best sense of that much-abused word is the man who brings all his gifts and all his strength to the service of some high and unselfish purpose. Let your purposes be the highest, and let them be unselfish. The greatest of all India's needs is her need for men and women who are prepared to use all the gifts with which God has endowed them in the service of their fellow-men. You graduates have received gifts of special value. May you be guided into the wisest and best use of them! When the Chancellor conferred your degrees upon you, he charged you "that you should ever in your life and conversation prove yourselves worthy of the same." I would ask you to think of these words and of all that they contain of counsel for you in your life-work.

The University in the Modern World.

I have felt that it might be not without profit if instead of directing your thoughts to any of the numerous practical problems which confront us as a University, I were to ask you to think with me to-day of the functions of a University, the ideals and purposes by which it should be inspired, in modern India. It may be all the more profitable to do this in view of the facts that more than ever before our educational system

is being subjected to criticism, and that more than ever before demands are being made on the Universities for extension of their work. These are healthy signs. The amount of criticism that is directed against any institution is evidence of its importance in the community, and when criticism is not simply negative and destructive but positive and constructive we have grounds for hope that the service of the institution to the community may grow in fulness and strength. To-day we are faced not only with criticisms of the details of the work of the Universities but with questions of a more fundamental kind regarding the whole meaning and purpose of higher education.

Cultural and Practical Education.

The age-old controversy between the advocates of cultural education and the advocates of practical education still continues. It is an old controversy, as old at least as Aristotle. He wrote in his *Politics*: "No one knows on what principle we should proceed—should the useful in life, or should virtue, or should the higher knowledge, be the aim of our training; all three opinions have been entertained." The question might have been settled ages ago, were it not that with the advance of knowledge, and with changes in the environment within which human life is lived, it ever raises itself again in some new form. For it is not a simple problem. It takes one down to the most profound questions regarding the meaning of human life itself. All will agree that it is the function of a University to prepare young men and

women for life. But the University is only one of many institutions which in one way or another discharge this function. There are the workshop and the office and the innumerable voluntary societies which contribute to the shaping of the life of those who belong to them. And there are all the subtle influences that come from the social and physical environment in which the individual finds himself. No one suggests that the University should undertake the whole task of training those who have left school and who seek to fit themselves for the practice of a trade or a profession.

Utilitarian Views.

There are indeed some who go a long way in this direction. There have always been those who have held purely utilitarian views of education valuing it not simply according as it furnished a preparation for life, but according as it furnished a preparation for the occupation of a particular sphere in life in which one might add to the material well-being of one's self and of the community. From this point of view the first duty of a University is to provide training in medicine and engineering and agriculture and in all other branches of applied science. The extreme representatives of this view do not hesitate to stigmatise as useless all studies that do not have a value that is immediately translatable into cash.

Education for Life.

I think most of us would admit that the training of men for life, if it means

anything at all, must mean the training of them for some position in life. Even the strongest defenders of the cultural theory in the controversy which in the latter part of last century was carried on so hotly in England regarding the purpose of University education, would have agreed to this. But the old Universities were concerned in those days to a very large degree with the education of the upper classes. Even more important in some ways than the training of men for the "learned professions" was the education of the men who belonged to the ruling classes, and whose main business in life was to rule, whether in the larger sphere of the nation or in the narrower spheres of their parishes or counties. It was an education that served this purpose wonderfully well. And it is only a bigot who will deny that there is still, and will continue to be, an important place for this type of education. Apart from any question of the purely cultural value of studies that are concerned chiefly with the language and the thought of the great classical writers, one must admit that these studies have served to develop qualities of mind and character that in almost every land have been of immense value in the service of the community. There is more to be said on the subject than this, but I say this much for the present in order to make it clear that the controversy has not been simply one of culture versus utility.

Two-fold Aim.—1. Pursuit of Truth.

I think it may be fairly claimed that the Universities have a two-fold function—a more general and a more specialised function. Firstly they are concerned with the disinterested pursuit of truth, with the communication of it, and with the guidance of others in the further pursuit. We can hardly imagine a University that was so intent on "practical" achievement that it concerned itself not at all with truth for its own sake. Such an institution could not indeed be called a University. And it could not continue to stand if it did not rest on foundations laid by disinterested enquirers. An extreme practicality inevitably defeats itself. For, in the first place, truth is one, and we cannot isolate those parts of it which may be turned to use for human pleasure or profit and ignore those parts for which we have no immediate use. In the second place, the human mind is so constituted that it can render its best service to the world not as the outcome of a rigorous training in the pursuit of practical ends, but as the outcome of a liberal education through which it has been led into realms of thought where these ends are forgotten. I think, for example, of certain branches of mathematics that seemed to have no practical value whatever until modern physicists found them ready to their hands in the investigations that led to some of their revolutionary discoveries. To those who are concerned only with material success one has to admit that it is not the man who pursues truth for its

own sake who as a rule receives the material reward. That generally goes to lesser inventors, popularisers or exploiters. "They have their reward," and the genuine truth-seeker will not usually grudge them it.

2. Specialised Training.

But the Universities do have, secondly, a more specialised function. As I have indicated already, higher education has never been completely divorced from practice. It would be interesting to compare the systems of education in the great civilizations of the world of which we have historical records, to compare the different ends which they were designed to serve and the manner in which they served them. In ancient India, in ancient Greece, in mediaeval Europe, in China up to modern times, there were great systems of education, which could not have been simply transplanted from one age or place to another without ludicrous results. Each of them was adapted to meet the needs of a particular situation. Let us think, for example, of the origin of the mediaeval University or *studium universale*. We find it in the schools attached to Cathedral Churches for the training of the clergy. The study of divinity was central, but there was need also for instruction in grammar and other "liberal arts" as accessory to this. We see the studies in these simple institutions developing, and some of the schools through the personalities of great teachers acquiring more than a local repute. In course of time in some of them secular studies came to acquire

increasing importance, though theology remained the crown of the sciences, and ecclesiastical control continued. Faculties of theology, law and medicine were constituted, and we have the framework of the modern University. What I wish to emphasise is that we can see clearly growing up in the Middle Ages a system of higher education definitely related to the Church and designed to prepare men for the service of the Church. It was long before this purpose was departed from, for even the so-called secular studies, those which trained men for the practice of professions like law and medicine, were as much related to the work of the Church as theology itself. The whole round of studies had a definitely practical purpose.

Wider Horizons.

But here we must qualify. Even in the early days, when the education given in the Cathedral schools was of the most meagre and elementary kind, there were teachers and students who were not satisfied to give or receive just the modicum of instruction necessary for the performance of the duties which were laid upon them in the Church. The intellect can never be hedged in in this way. It was not simply or chiefly practical exigencies, but rather the insatiable desire of the human mind for deeper insight and fuller knowledge, that led to the great educational developments of the later Middle Ages. I have spoken of theology, law and medicine, all of which were distinctly practical studies. But in subordination

to the study of theology there was philosophy, and in close relation to all studies there was the whole field of classical literature. And there were restless minds like that of Roger Bacon, which were not satisfied with the knowledge of reality that was obtainable through the working of the intellect on what men of old time had written, and which were seeking through more direct observation of nature to discover new truth.

The Arts Course.

There is another thing that is worthy of attention, and that is that the teachers in the mediaeval Universities came to draw a sharp distinction between general and professional education, and to insist on an Arts course as a preliminary to professional studies. In both Oxford and Paris we find this principle asserted from the middle of the thirteenth century. It was not by any means that they had come to the view that Arts studies were the main business of the Universities, but that they had come to realise that there is such a thing as a general training of the mind that is of the highest value as a preliminary to the specialised training that is necessary for the practice of any of the professions.

Technical Training.

This reference to mediaeval education may have helped to illustrate certain things which I think will always characterise the work of the Universities. They are concerned with the preparation of men for practical life, but not in the way in which the workshop or the tech-

nical training school prepare them. The difference lies in this, that while there is a training which consists in the imparting of a certain skill in the performance of a limited number of specialised movements—a skill of hand which is most valuable and necessary but which is largely independent of any understanding of principles—there is another kind of training which is primarily of the intellect, and which, even when it has practical ends in view, will bring into its service all the wealth of knowledge and all the gifts of intellect that are available. It is this kind of education with which the Universities are concerned.

Changing Conditions.

If the function of the University be conceived in this way, then it is obvious that the actual task before it must be continually growing and changing. Older educational systems were developed in relation to much more limited practical ends than we are confronted with to-day. Generally speaking these practical ends were the fitting of a class of men for leadership, social, political or ecclesiastical, among their fellow-men, conditions varying from age to age and from place to place. In the modern world conditions have changed almost fundamentally. Two great changes in particular have taken place and these two are very closely related together. On the one hand, we can observe from the time of the Renaissance that increasingly marked redirection of the human intellect that has issued in the scientific attitude which is the

characteristic of the thought of the present day. Its inevitable corollary has been an enormous extension of the devices for the satisfaction of men's temporal desires. On the other hand, there has been an enormous enlargement of men's desires, and an enormous increase in the number of individuals whose desires have been so enlarged. This has meant the steady growth of democracy and of the democratic spirit. These are changes that have had their tremendous significance for the Universities. The Universities, in the earlier days at any rate, did little by way of direct influence or deliberate design to bring them about, though their indirect influence was immense. But the actual outcome has been that those who are now concerned with higher education are facing a situation radically different from that in relation to which the earlier systems which I have mentioned were conceived.

Implications for this University.

It is not easy to say what the precise significance of all this is for the range or the balance of the studies which a University undertakes, or for the manner in which it conducts them. I think we shall agree that we are concerned nowadays with all branches of natural science, and I think that most of us will agree that we are concerned with the applications of science to the special interests of our own neighbourhood. But even here there are doubts and difficulties. It would be a sad day for any University if its work came to be deter-

mined by a too direct reference to men's practical pursuits. Mr. Bertrand Russell has said that in England and America the main force tending to the diminution of disinterested learning has been the desire to get endowments from ignorant millionaires, and I believe there is a certain considerable element of truth in the statement. There are places in the West where the whole direction of University education has been far too largely determined by wealthy benefactors, who were not by any means ignorant, but who had a very defective understanding of the meaning of University education. This is a complaint which we in this University cannot make, and my quotation of Mr. Russell's words must not be understood to be intended to discourage enlightened men of wealth from co-operation in the furthering of University work which has in view the special practical needs of the Presidency. I think I might go further and say that what this University wants at the present time almost more than anything else is a realisation on the part of the captains of industry of the possibilities that lie latent within it. If India is going to play the part she ought to play in modern industry, it will only be as she uses to the full the resources that lie to her hand in her Universities. The cost of the equipping of a first class technological department in this University would be, in relation to the wealth that is invested in industry, infinitesimal, and the return would be, measured not simply in cash but in the enrichment of the life of the nation, incalculable.

Pure and Applied Science.

But while I desire to say this with the greatest emphasis of which I am capable, I hope I shall not give the impression to any one that I consider the practical applications of science the sole concern of the University. This would be as unreasonable as it would be for a farmer to say that he had no concern with ploughing or sowing but only with reaping or with the selling of his grain. Pure science, as I have already indicated, lies behind applied science, and is a condition of its very possibility. But more than this, pure science has a place by its own right. It is the business of a University to teach not merely particular parts of truth, but to guide the way to the discovery of Truth, and I would go so far as to say that an education that does not include some scientific study is incomplete.

What is a Liberal Education?

Here I have raised an extremely difficult problem. The whole field of knowledge and enquiry has become so large that it is beyond the power of any individual to know it even superficially in its whole extent, and possible for but few to comprehend the outlines of it. The days of encyclopaedic learning have gone, and the age of the specialist has come. What in such an age do we mean by a liberal education? This is a question that does not admit of easy solution. The old controversy between the advocates of classical and of scientific education is dead, and it ought long ere now to have been buried. In the extreme

form in which the classical tradition in education has been defended the assumption has been held that it is possible to liberalise the human mind through the study of the great literature of the past without reference to the profound changes that modern science has wrought on the world that is presented to us. On the other hand the extreme champions of scientific education have often failed to realise how fragmentary are the truths which they have discovered or glimpsed. The question is not whether in these modern days a liberal education should be classical or scientific, but whether an education can be devised which shall make possible that adjustment to the world as a whole which neither by itself can give.

The larger Purpose of Education.

This is a problem difficult in itself, and it is further complicated by the fact that within the field of natural science, with all the great and illuminating discoveries that have been made, one who seeks light on the meaning of the universe as a whole is conscious rather of the great areas that lie in darkness. A few years ago a Bishop of the Church of England brought upon himself a sharp rebuke from the President of the British Association for suggesting that it would be well if all scientific laboratories were closed for ten years so that scientists might give themselves to the co-ordination of the results that had been attained. It was not a wise suggestion, for co-ordination cannot be hoped for as a result of mere reflection. Scientific

enquiry must go hand in hand with reflection. But the fact remains that whatever be the state of scientific knowledge men must live their lives in relation to a world for adjustment to which they cannot wait for that detailed understanding which the various sciences seek. The scientist himself must do so, and the trouble is that so many men who in their scientific work pursue truth with the most painstaking care, are prepared to leap to conclusions regarding the meaning of reality as a whole in a way that strikes one as far from scientific. It may be said that in the light of our present-day knowledge it is impossible to view the world as the orderly integrated unity which at earlier times it has seemed to be. But this does not alter the fact that every individual must somehow, if not in theory, at least in practice, by the values which he allows to determine his judgments and his actions, hold a view of the meaning of the world which requires a broader intellectual foundation than any of the sciences can provide. It must be one of the great functions of a University—indeed, I think, its supreme function—to help its students not merely to fit themselves for this or that particular task, or to make themselves experts in this or that science, but to find their way to the truth of things in the light of which their whole lives should be lived.

The Place of the Humanities.

It is here above all that the humanities have their place. I cannot think that a man, whatever be his attainments in

particular branches of study is a truly educated man without some knowledge of the great literature in which human life is exhibited and interpreted, or without some knowledge of the great movements which are revealed in history. Nor has anyone come near to attaining all that a liberal education should give him if he has not been led to reflection on the deeper problems of reality. This may seem to suggest a programme of education which would involve for all, whatever specialised studies they propose to undertake, a prolonged course of literary studies. I admit I do wish that this were possible, but I fear that under modern conditions it is not. But certain things are possible. We may in all our planning for the studies which we invite our students to undertake avoid the danger of a too narrow specialisation which treats the student as a piece of mechanism to be fitted into an inhuman machine. The present tendency is to begin specialisation earlier than in former days. This is a tendency that is not necessarily evil. It depends on the character of the specialisation. But I believe the whole question of the kind of education which ought to precede or accompany specialised training in any branch of science or in a professional course has not yet been finally or satisfactorily settled. In this University we have had the question before us in a very practical form during recent months, and the differences of opinion that have emerged in the discussion of it are evidence of the diversity of views to

be found among those who are thinking on educational questions.

Other Influences.

It is not merely through its organised studies, however, that a University imparts a liberal education. I believe that not less important than these are the influences that come from the contact of mind with mind in all the ways of intercourse that are made possible in the life of a University. Many of us can look back on our own University days and can recall associations that were as valuable to us as anything that we found in our set studies—those friendships with men engaged in other branches of study, those discussions in larger groups of men drawn from all the faculties,—which did so much to broaden our horizon and to give us perspective. Our own University is by no means without these influences, but we are a scattered body, and it is very easy for the students in the different faculties and in the different colleges to be isolated from each other. Everything which helps to break down this isolation, whether it be in the way of facilities for increased social intercourse, or whether it be on more definitely intellectual lines, is to be encouraged. I am far from belittling the importance of the knowledge that one acquires at College. But perhaps even more important is the attitude of mind that one acquires—the interests, the sympathies, the appreciation of values, which one develops,—and it is not always the class-room that is the most important field for their development.

I have been trying so far to show that the antagonism between practical and cultural ideals in University education is a false one, if we think of education as training for life. For man has other and higher functions than the earning of his daily bread or than the eating of it, and the University fails him completely if it does not provide for his higher needs and potentialities; the education which it gives is not in the full sense of the word practical.

National Education.

But it may be objected that in developing my thesis I have passed at one leap from the conception of education as fitting one for some purely utilitarian function to that of education as helping one to adjust oneself to the world or to the universe as a whole, and that I have omitted all reference to what is uppermost in many minds to-day, namely the national significance of education. I have made no explicit reference to this subject, but much of what I have said has important bearings on it. When people speak of national education I am not sure that they are always quite clear what they mean by it. I have known more than one country where there has been the feeling that in education more emphasis should be laid on those things in which the nation is different from other nations. Education would thus tend to become a divisive influence. I believe there are two important aspects in which the education of every country should be national. Firstly, in the more immediately practical aspect of it it

should be related to the environment and to the ways in which the environment may be made to serve men's needs. National education in this sense means in India a closer touch with agriculture and industry, and we have cause for satisfaction in the fact that some of the best minds in our own University are applying themselves to this problem. Secondly, on the cultural side, education should concern itself in any nation with the nation's contribution to the knowledge and culture of the world—its history, its literature, its philosophy. There is no people that has not its own distinctive genius, the cultivation of which may add not only to its own cultural wealth but to that of the world.

Nationalism and Internationalism.

These are two aspects in which education can and ought to be national. It is a nationalism that is not exclusive or divisive. It is compatible with and essential to a true internationalism. It does not mean that a nation stands outside the great intellectual movements of the world but that she is fully in these movements. Whether we like it or not the world is becoming internationalised, and no nation may hope to wall herself off from the rest of the world, and in isolation think her thoughts and formulate her plans. There are streams of influence that are flooding the world in almost every single part. We are perhaps most conscious of this on the lower levels of human experience and activity. A recent writer speaks of a great wave of vulgarization that is

sweeping over the world and destroying the finer values of civilization. Whether we are in full agreement with him or not we can understand to what he refers. In almost all the cities of the world you will find a multitude of people, who, possessed of little that one could call culture, are yet wonderfully alike in their outlook upon life—thinking much the same kind of thoughts, feeling the same emotions, and seeking satisfaction in the same kind of pleasures. They represent what we may describe as a spurious internationalism.

True and false Internationalism.

India is by no means exempt from the influence of this spurious internationalism. It is an internationalism that does not bring the nations nearer to each other in co-operation and mutual service, but that merely gives to individuals of all nations the same trivial interests and makes them susceptible to the same crude emotions. The cinema is the chief among the many influences through which it has been propagated. It is probably an exaggeration to say that the finer values of civilization are being destroyed, for there are powerful forces on the other side. In the Universities we have one of these great forces, and it behoves us who have any share in University administration, or teaching, or study or research, to think of our work in this light. For the discovery and dissemination of truth the co-operation of all nations is needed. Education is most truly national when it subserves most fully the needs not merely of the nation

but of the world; when it does not separate but unites. Each nation and people has its own distinctive contribution to make, and it makes it most effectively when it works in fullest harmony with all the others.

India's Contribution.

I think we may claim that our Indian Universities, in spite of many defects in them of which we are being ceaselessly reminded, have done something to bring India, with no loss of anything that is dear to the nation, but rather with great gain, into a richer life. There have been great Orientalists, among whom one of the most distinguished was our own Sir Ramkrishna Bhandarkar, who by their work have contributed to the extension of human knowledge and who have found an honoured place in that world fellowship of seekers after truth in which a man's race is forgotten, or remembered only as sharing in the honour accorded to the individuals who belong to it. And I think we must all have felt pride yesterday when we received in this place a great Indian scientist whose achievements are as well known and whose name is as highly honoured in the Universities of England and Sweden and Germany and the United States and Canada as in those of India. I would remind you that he never left the shores of India until the eyes of the whole scientific world had been directed to his discoveries. In men like these India feels just pride, and it is a pride which the whole world understands and approves.

The Task before us.

I say these things in no spirit of complacency. No one who has anything to do with education in this land is likely to be unduly complacent. There are faults and weaknesses enough in our educational system and in the manner in which it is worked. The removal of these cannot be the work of a day; nor can it be the work of a few people on whose shoulders all responsibility for education is supposed to rest. But I would suggest that what this University and indeed all the Universities of India need much more than negative criticism is the co-operation of all the best minds in the work of constructive criticism and the co-operation of all who have anything to contribute in the work of construction. The new constitution of this University does make possible this co-operation. The door stands wide open. The one hindrance is that we have not yet been able to convince the community as a whole of the transcendent importance of what the University stands for in the life of the nation—of its unrealised potentialities, cultural, social, political, industrial and economic. My last word to-day would be an appeal to all who love India, and above all to all who owe to this University anything of the fitness which they have acquired for the service of India, to give the University a larger place in their thoughts and purposes. The years that lie ahead of us will not be easy years. They will make great demands on the wisdom and courage and devotion of those upon whom the task of leadership will fall. The issue is in God's hands, and we may safely leave it there. But let us strive that this University may send forth to serve India and the world a steady stream of devoted men and women equipped for this high service.

MYSORE UNIVERSITY CONVOCATION ADDRESS.

BY DR M. O. FORSTER, F. R. S.

Indian Institute of Science, Bangalore.

Michael Faraday.

YOUR gracious invitation to deliver the Convocation Address is one that I am very proud to accept, although aware that I cannot emulate the distinguished men who have confronted your predecessors on similar occasions. The profound philosophical reflections of Sir S. Radhakrishnan and the golden oratory of Sir Venkata Raman are intellectual enchantments which I cannot offer, or even hope to approach; but nobody lives his life in exactly the same way as his fellow-beings, and nobody completes the usual span without having viewed some aspects of existence which are at least worth consideration by his younger associates.

Let me at once allay any apprehension in your minds at the prospect of my becoming autobiographical. Happily for you that is not my intention: but I do suggest the advantage of your making biography one of your study-subjects; and of taking care that in pursuing any branch of knowledge you devote particular attention to the lives of those great men who have been conspicuously instrumental in developing it. By following this plan you will encounter so rich a variety of motives and principles, changes and chances, triumphs and disasters, that you cannot fail to find innumerable sign-posts to help you on your own way, according to your opportunities and your temperaments.

Six years ago, in 1925, the discovery and characterisation of benzene by Michael Faraday was made the occasion for a centennial celebration, and in a few weeks' time there will be assembling in London representatives of scientific achievement from all parts of the world, to commemorate his revelation of electro-magnetic induction one hundred years ago. Your interest will be focussed on his experimental skill—both in Chemistry and Physics,—his outstanding clarity in demonstration, and the far-reaching benefits conferred on succeeding generations by the application of his discoveries to industry. I greatly hope that your attention will be drawn also to the qualities of Michael Faraday the man; the blacksmith's son whose first employment was as errand-boy to a bookseller, and who, self-supporting and self-educated, came to be acknowledged by his contemporaries as the greatest experimentalist of his epoch: yet, of whom it was said by one of the most penetrating among judges of human character, "There is not a scrap of scientific conceit about him."

Mr. J. N. Tata.

Just at the time when Faraday's health was first breaking under the strain of overwork, another great experimentalist came into the world. Your own illustrious countryman Mr. J. N. Tata was born in 1839, and so far from being the son of an obscure blacksmith, sprang from a line

which could trace its descent through five-and-twenty generations. This imposing lineage, however, gave him no handicap in the race he was about to run, because his family was of the priesthood, from which his father was one of the few to break away. The foundation and expansion of the Empress Mills, the first of Mr. Tata's independent experiments, affords a wonderful example of informed enterprise, carried to a pinnacle of dazzling success by inflexible determination and artless integrity. Not only in technical achievement, but also in provision of benefits for his work-people, Mr. J. N. Tata was a conspicuous pioneer, and inspired his successors to pursue the same policy in those enormous ventures which emanated from his brain, the Tata Iron and Steel Works, Jamshedpur, and the Hydro-Electric Scheme which now supplies Bombay with light and power.

The wealth derived from cotton-manufacture was devoted primarily to the improvement of Bombay; among Mr. Tata's great qualities, enthusiasm for civic betterment was outstanding. The variety of his experiments is amazing. He built a famous hotel and attempted to establish a line of steamships; he investigated the possibility of consigning mangoes to England, and for want of public support failed to establish a cold-storage system in Bombay: he experimented in well-sinking, fruit-farming, sericulture and cotton-growing, and he experimented in education. The experiments in education were both shrewd and

bountiful. All Mr. Tata's large-scale enterprises were conceived on elastic principles allowing for future expansion, and the J. N. Tata Education Scheme was one of these. Selecting each year a few brilliant students having the temperament suited to foreign residence, he lent them sufficient money to pursue, during two or three years, a course of higher training at an American or European centre of learning. This money is not a gift, but a loan, bearing a low rate of interest, and repayable by instalments on a sliding-scale graduated to the subsequent earnings of the beneficiary. Since 1892, eighty scholars have been thus assisted, and now embody civil servants, physicians and surgeons, barristers, engineers and educationists. Thanks to the public spirit of honorary administrators, the annual expenses of the scheme are negligible, and a combination of prudent finance with conscientious repayment by the scholars has augmented the original trust-fund to the neighbourhood of seventeen lakhs.

The Indian Institute of Science.

The other experiment in education was on a scale which can only be described as princely, and has taken the form so familiar to the State of Mysore, namely, the Indian Institute of Science, Bangalore. From his investments in Bombay real estate Mr. Tata set aside thirty lakhs, which encouraged the Government of India to provide a substantial annual subsidy. With great generosity, the Mysore Durbar not only allocated a large area of suitable ground,

but engaged to subscribe a handsome annuity towards maintenance. The lamented death of Mr. Tata in 1904 would probably have shattered this noble scheme but for the munificence and public spirit of his two sons, Sir Dorabji and (the late) Sir Ruttonji Tata, who magnanimously assumed responsibility for the project. The Institute attains its twentieth birthday this year, and its real value to India will be appreciated more fully by future generations, because the expectations of its potentialities conceived at the outset were somewhat extravagant, and based on a misapprehension of its true purpose. It is not practicable to combine in one institution the separate activities of teaching the methods of scientific research and the establishment of new industries. The germs of new industries can be found, and have been found at the Institute, and their lines of progress planned; but their development as industries must be accomplished by governments or industrialists. Your own State at least has no solid ground for cavil. Your highly profitable sandal oil manufacture and other minor industries have sprung from the Institute, which is also the *alma mater* of 132 Mysoreans from among the 570 all-India students on our rolls. The Mysore Durbar was admittedly generous in casting its bread upon the waters, but it has not had to wait many days in which to find it.

Old-Fashioned Virtues.

It is difficult to imagine a greater contrast than that which externally

divides Michael Faraday and Mr. J. N. Tata. Racially, geographically and socially they were poles asunder; but these are factors which already have lost almost all such importance as they ever had. When you examine their motives and principles, but for their worldly setting, you find them to be identical. Each attained the first rung of his ladder by the old-fashioned virtues of honesty, industry and self-help; whether the rung was directorship of the Empress Mills or the laboratory of the Royal Institution is only superficially material. Each regarded his first success as only the means to an end, and used the means to equip himself more completely in the particular technique he had selected: in this exercise of self-development each maintained the noble vision of simultaneously improving the lot of his fellow-men. Each was a specialist, with superlative power of concentration, but both cultivated a wide range of interests unconnected with his own speciality. Each achieved monumental success, yet neither lived to witness the principal fruits of his success; both were free from vanity and self-assertion.

My purpose in directing your attention to the lives of these two famous men does not need elaboration; it is to show for your encouragement how from the smallest and most unpromising beginnings veritable greatness may be achieved, emphasising the fact that their greatness was developed from within and not thrust upon them from without. I may be addressing in this assembly a potential

Faraday or J. N. Tata; but to the great majority who will not attain that zenith of distinction, I would say that you have not as yet the least idea of the measure of your capabilities; and your purpose in life should be to develop them as completely as possible, for your own benefit and for the benefit of your follow-beings. In doing so, you will consciously or sub-consciously seek happiness, as do we all. The most important factors in a happy life, in my judgment, are good health, congenial employment and a monetary reward for that employment adequate to family requirements, and to such wholesome relaxation as will give labour renewed zest and contribute to a well-balanced outlook on life.

Need of Goodwill.

Nobody will gainsay the primary importance of health, because without it, work suffers and enjoyment is clouded. Probably, to the younger members of this assembly, congenial employment seems more important than health because it is not yet assured; and with that anxiety I sympathise deeply. Excepting from those who, by superior talents or great good fortune, enter quickly into employment, much patience and courage are required. The first rung of the ladder is often the most difficult on which to secure a foothold: it is a truism that there is more room at the top. Having gained that first rung, remember that it is apt to be slippery, and metaphorical rubber shoes are a wise precaution. When you accept employment, your first duty is to your employers, and if you wish them to be

tolerant of your own shortcomings and peculiarities, you must be tolerant of theirs. This human aspect of work is often unheeded, and so leads to immeasurable trouble: it is probably responsible for more avoidable unhappiness than any other single factor.

The greatest need of the world to-day is goodwill: goodwill and patience. Everybody with whom you come in contact has good in him, and the best way to develop your own good qualities is to seek out and cherish the good in other people. Unhappily there is a tendency to do this only when they die, the conventional obituary notice being an example of this propensity. We want to ante-date in spirit our obituary notices. Take up any newspaper you please, and you will find that a large proportion of the space is occupied by criticisms of one set of people, by another set of people at least fifty per cent. of whom live in glass-houses. The only undiluted commendation is in the advertisements. If your taste is allowed to run in that direction, nothing requires less effort and less intelligence than destruction, and most of the current destructive criticism appears to me unscientific in this sense, that it is evidently exercised without full cognisance of the relevant facts. Such criticism leads only to bitterness, discouragement and exasperation; it fails to construct.

Equality of Opportunity.

Another blemish on modern life is a reckless absorption of the catch-phrase, or slogan. Examine for a moment the factitious demand for "equality of op-

portunity." Supposing it were possible to give everybody the same upbringing, the same education and thereafter the same income; how can you give them the same health, the same aptitude for self-development, the same capacity for enjoyment? You cannot even give them the same beauties of nature and amenities of climate, which form an important element in the attainment of comfort. There are 350 millions of people in India; how many of them could you locate on the Nilgiri Hills? What sort of a pandemonium would the lovely Nilgiris become if you placed them all there? Somebody must live in the plains. The unpalatable fact is that "equality of opportunity" is a chimera, beloved of sentimentalists because it veils the truth that we have duties to perform as well as privileges to enjoy: and our first duty is to try our best to do our best with such bodies and brains as Destiny has allotted. If good fortune attends our efforts, by all means let us do what we can to help the less fortunate; but do not let us imagine that we can treat human beings, the complex inheritance of countless generations, as if they were objects manufactured by mass-production. Even Ford cars do not enjoy equality of opportunity.

My hope for the future of mankind, and it is a strong hope, lies in a more general adoption of the scientific attitude of mind. The great value of a scientific training, provided you have made it a part of your being, is that it helps you to distinguish fancies from facts, and opens an inexhaustible treasure-house of

interest in life. Fifty years ago, we were told and we believed, that flies are beneficent agents of Providence engaged to maintain the circulation of air in stuffy rooms. Pasteur was still alive, and his great discoveries not yet assimilated. Our present recognition by all but the most ignorant, of the house-fly as a deadly enemy of mankind, arises from the development of bacteriology into one of the most important branches of science, and the American command to "swat that fly" is one that I carefully exclude from my indictment of slogans.

The Poverty-Cult.

The world still has fly-fantasies for you to swat, and my suggestion is that, before accepting any plausible panacea for human ills, you should investigate it for yourselves to make sure that the remedy is not worse than the disease. Examine for a moment the poverty-cult. It does not seem to be generally recognised that while involuntary poverty is a dire misfortune voluntary poverty is a luxury, and before indulging in luxuries we ought to be sure that we can afford them. Whether we like it or not, and believe me, most people like it, life has rapidly become filled with an enormous variety of wonderful and beautiful things, interest in which is no discredit to anybody: but in the aggregate they are expensive. Even bodily health and cultivation of the mind cost money; because they invoke the work of other people who require to be paid for their services. I recognise the possibility of a few exceptional people regulating their proclivities in the direction of happiness while de-

tached from all the commoner forms of self-improvement and wholesome recreation: but closely examined, this is only a whimsical form of self-indulgence. The majority of us are not exceptional people, and the great danger of the poverty-cult is its confirmation of two vices we all possess in varying degree, namely, indolence and thriftlessness. A professional povertician can go quite a long way by merely sponging on his more active fellow-creatures.

New Lamps for Old.

There will require to be some very profound changes in human nature before the poverty-cult becomes practical politics, and meanwhile you are just on the threshold of your lives. My recommendation is that when people offer you new lamps for old, you keep to the old lamps until quite sure that the new lamps will burn, and will not explode. Do not be ashamed to save a little money, and do not be ashamed of refusing to lend if obliged to borrow the money for indulging in that luxury. Polonius was not stabbed because he said: "Neither a borrower nor a lender be." The rainy day will surely dawn, and a few rupees in the savings bank will protect you from trouble coming more than half-way to meet you. Provided you gain the money honestly, why be ashamed of acquiring it? You have splendid examples of noble spending as given by Mr. J. N. Tata and many others. Such men were constructive: they increased the world's wealth, widened and embellished the lives of thousands of their fellow-citizens,

and to grudge them the happiness they derived from the exercise of their philanthropy is indistinguishable from envy. In deprecating the worship of poverty I am not advocating the worship of wealth; but philanthropy on the grand scale cannot be practised without wealth; what really matters is how you spend your money, not the possession of it.

Graduates of the Mysore University, I am now at the end of my address, and if the counsel of a man at the end of his life can be of service to you at the beginning of yours, you are cordially welcome to it. In a few words it is this. Until those very profound changes in human nature have recognisably taken place, of which I see not the slightest sign at present, adopt Michael Faraday and Mr. J. N. Tata as your models, and cleave to the old-fashioned virtues: kindness of heart, honesty of thought and action, modesty, industry and thrift. If to these a genial fortune adds good health, your chance of a happy life is about eighty per cent., and my warmest hope for all of you is that the realised percentage may be one hundred.

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BY

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THE TESTAMENT OF BEAUTY.

BY MR. P. K. SESHADRI AIYANGAR, B.A. B.L.,

Chingleput.

(Continued from p. 544.)

XII

THE fourth chapter on Ethick opens with a brilliant disquisition on beauty as a spiritual force, its immanence in nature, and the mysterious influence that it exerts upon richly favoured souls who are endowed with responsive faculties. Shelley conceived of beauty very much as Robert Bridges and called upon that awful loveliness to give him a constancy of purpose and calmness of disposition by which to love all mankind and free the world from its dark slavery. Whereas Robert Bridges called beauty "the eternal spouse of the wisdom of God and angel of His presence through all creation," Shelley called it

'The awful shadow of some unseen power
Floats though unseen among us.'

In the language of the Indian Vedantist it is the *Antaryamin* who dwells in all creation and who (by an audacious intellectual ecstasy) is later identified with the immortal spirit, the one without the second, the Atman, the Brahman. It was in this grand identity that we see the chord of love as the divine string that harmonises all the disharmonies, and makes us feel the oneness of creation in the midst of seeming discordancies.

In his Hymn to Intellectual Beauty Shelley mourns that beauty, the messenger of sympathies, the nourisher of human thoughts, has 'inconstant wing' and so does not give a firmness to human thought. This note of despair was natural in one who did not know

the solution to the problem as to how to co-ordinate mortal prudence with fate and fortune. Shelley in fact was one of the supreme examples of an uncultivated visionary. There is, if one can use the expression, a tragic loveliness in the lonely figure of Shelley trying to overcome evil by a mere assertion of the superiority of good to evil, by an over-eagerness to be able to find and to grasp in corporal presences the fulness of the spirit.

Though Shelley knew that this world "is an unweeded garden that grows to seed, that things rank and gross in nature possess it merely" he was unfit to cleanse it of its vices, for he lacked the quality of the Karma Yogin who acts so as to approximate to his ideal. While Shelley pined for that state where love was the supreme law and the only limit to the unbounded sphere of freedom he had lacked the faculty of responsiveness to the demands of beauty—a faculty which renders the vision into the language of action. Responsiveness is a condition of the effective influence of beauty on life. Robert Bridges is aware of the seeming paradox that beauty which is immanent breeds brief moments of glory 'too little to leaven the inveterate lump of life' and does not exercise her full potency 'in the infinite disposition of random souls.' But nonetheless he gave a solution to the problem which Shelley was unable to solve (namely) how best to cultivate the faculty of responsiveness to the allurements of beauty so that man can become divine. Robert Bridges says,

"Forsooth the need of fortune stayeth not here
 There is no assurance of stability or fair growth,
 Unless she stand by faithfully and foster the soul
 Fending from all evil and encompassing with good,
 The while these intimations come to be understood
 And harmonized by Reason in the conduct of life."

It is the divine faculty of intuition that sees visions, but it is 'mortal prudence the hand-maid of providence' that supplies the urge to action. Hence a large place which ethick fills in every scheme of life devised by man. To visualise in spirit and to translate into action has been the theme of all religions, the birth of various *darsanas* or systems of philosophy in India, and the various creeds and conventions. An intellectual approach to spiritual realisation best conduces to human progress in the direction of advance. Robert Bridges therefore pleads for a spiritual ethick for the conduct of men. Rationalise the spirit so that man can enjoy the spiritual bliss hidden behind the cosmos, and spiritualise reason so that it can lead towards divinity. The practice of the divine life among men is the goal of ethick. Really there is grandeur in the view of life where man ascends to immortality by the path of virtue which is compounded of a vision set to action. What is a virtuous life? It is "nothing but action in harmony with the laws of nature. The foundation of all true virtue, of all true happiness, lies within the sphere of these laws and their perfect observance; the first and the greatest of all, being that which impels us to preserve our minds in a state of integrity as respects ourselves, in a state of harmony as respects our fellowmen, and the things of nature at large. Virtue is therefore a thing to be sought and prized for its own sake, there being nothing more excellent in nature, nothing more advantageous to ourselves, nothing more beneficial to others. They who live virtuously or by the rule of reason in

benefitting themselves in the highest degree, also benefit the rest of the world to the uttermost." (Italics are mine).

The end of art is creation. Ideas live in their expressions. Visions find their utility in sensuous forms. Robert Bridges says that 'denial of use has done our virtue wrong.' Without expression ideas meet with sterility and death. In the absence of a sensuous garb visions fade away into nothingness. Spirituality has no value apart from its utility to serve for 'satisfaction of soul.' Robert Bridges says,

"Spiritual conduct also is utilitarian;
 For virtue subserveth the soul's comfort and joy."

Therefore let not man allow spirituality to run riot and scatter itself into a sandy waste. Let spirituality flow into defined channels marked out by the brain of man. If spontaneity sits on the brow of care man becomes truly a co-operator in the divine scheme. Let the cool reason embrace the hot heart and you see in the metamorphosis of heart and reason an indivisible charm of the grand synthesis of life.

Is there death to spontaneity in the arms of care? Has the idea exhausted itself by its expression? Does the vision cease to inspire when it descends into sensuous forms? In short are all the cosmos hindrances to self-realisation? To borrow John Freeman's beautiful expression "I do think emotion seeks for and hungers after and wholly needs form, and needs it not only for resistance as the swimmer needs water, but for its very needs of life." In fact the idea, the vision, or the spontaneity gains strength by resistance. The greater the resistance that is overcome the purer and deeper becomes the vision. Ethick in short is the instrument devised by man in the laboratory of his brain under the guidance of reason by which he attains to ever-ascending scale of spiritual bliss. Man's imperfections and limitations are the axioms upon which the theory of ethick is built. When man pursues perfection it flies, when it escapes his grasp he follows it and a true code of ethick asks me to be 'happy in loss and calm in strife'.

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AMERICA'S FAITH IN EDUCATION. WHAT IT HAS DONE FOR ITS PROSPERITY.

BY MR. K. N. KINI, M.A. (HONS.),
International House, New York City.

AMERICA has unbounded faith in education. For 120 millions of population, she spends six hundred crores of rupees on various kinds of instruction in her schools and colleges, while in India for three times that population we spend only ten crores. The first European settlers came here to have freedom of religious worship and to escape religious persecution in Europe. They wanted that everyone should be able to read the Bible for himself or herself and receive the word of God direct, without the intermediary—the clergy. They directed their effort to universal education. As time rolled on and as the religious ideals of the older folk began to wither, the people were more attracted to the affairs of this world and began to give less attention to that of the other. A country, rich in natural resources, was at their disposal. They wished to utilise those resources for their material happiness. So education was gradually directed, from religious purposes, to mundane matters.

Education is to-day free in all public schools, whether of elementary, high or college grade, arts or technical, so that every pupil has an opportunity of receiving at public cost any kind of instruction that the individual may need for cultural or professional purposes. In many cities, books are also supplied free of cost. America has founded its institutions and life on democratic principles, and education, being the key to all other progress, is based on the highest democratic principles. There

is no class distinction as in European institutions. All public schools and colleges are co-educational. The staff in elementary schools is ninety per cent. women. In high schools too, there is a considerable proportion of women teachers.

Schooling is compulsory in all States and for both boys and girls up to 14 years of age. The regulation is enforced rigorously in cities and larger towns. In rural parts, the rigour of law is less severe and hence a few pupils drop off earlier on account of economic causes. But the faith of Americans is so great in education that even without compulsion, a considerable body of school-going population is enrolled in schools. In many States, law requires that pupils between the ages of 15 and 16 or 17 should attend school if they are not gainfully employed, and if they are wage-earners they are required to attend continuation schools for 4 to 8 hours a week to receive instruction either in cultural or industrial subjects. The trend at present is to raise the compulsory age to 16 and even to 18 years; and a few cities have already reached the 16-year limit. The severe economic depression perhaps may stem the tide of progress. The American parents are eager that their children should receive a higher standard of education than they themselves possess. One of the reasons for the migration of population from the rural to urban areas is to reach the advantages of higher education to their children. Facilities for higher and vocational

education are fewer in villages. Nor will they become adequate for many years to come. Great efforts are being made to improve rural education. But on account of high dispersion of population, the cost involved in founding an efficient system of rural schools is enormous. Notwithstanding all these difficulties, it is estimated that about half the children of high school age in the Union are in schools. Also it is reckoned that a much higher proportion of high school graduates proceed to the college than in any other country in the world. This rush for college education has brought into colleges pupils who have not the requisite intellectual acumen or interest to proceed with the traditional college studies. But America is a democratic country. Everyone has as much right as every other. The parents say "It does not matter if my children do not get the academic degree. Let them spend some years in the Colleges." Nobody can stop them.

VOCATIONAL EDUCATION.

As early as 1862 the Central Government voted for the establishment of agricultural colleges. Land grants were made for their permanent up-keep. The individual States bear a part of the expenditure. These agricultural colleges have been training leaders of agricultural research as well as efficient farmers. Research is undertaken by the professors and post-graduate students with a view to solving newer agricultural problems; and the results of investigation are broadcast among the farmers by means of pamphlets and lectures. There is a separate staff for extension work in rural parts, whose main function is to instruct farmers in their own homes in the improved methods of agriculture,

dairy and poultry farming and pig and sheep raising. Agricultural clubs are started by these propagandists with the help of the local communities for the boys and girls of the farming population with a view to enlisting the co-operation of future farmers and house-keepers. The agricultural colleges give instruction in home-making to women and arts-mechanics to boys in addition to agriculture. The equipment of these colleges is stupendous. For the convenience of adult farmers, short courses according to project method are being held during times when they have no work on their farms. Thousands of farmers take advantage of these short courses. Improved seeds, fertilizers and machinery are being introduced. Science and industry have done much for the improvement of American agriculture through the agricultural schools and colleges. In many high schools, especially those in the rural areas, agriculture for boys and home economics for girls have been introduced as vocational subjects. In recent years better qualified teachers are being produced. In cities shop-work and home economics and commercial subjects are the principal subjects taught with a vocational view.

VOCATIONAL GUIDANCE.

It is found that boys and girls who have to drop off from schools after the compulsory education age do require guidance to place themselves in gainful occupations. So a new department called "Vocational Guidance" is fast coming into vogue. There are vocational counsellors in premier high schools and cities for assisting students "to choose, to prepare for, to enter upon and to progress in" their life vocations. Instruction is provided at proper stages to enable pupils to choose their career.

ment since it is there that a student comes under the influence of not one but two personal forces, *viz.*, the creative power of the author whose record he is studying and the appreciative judgments of the teacher who is introducing him to the intimacy of a great intellect.

A child is attending a school, except in holiday time, for almost 27 hours in the week, that is to say, the school teacher is a shepherd of his flock for what should be less than a quarter of the children's waking hours. Therefore the influence of home, of friends, and of the day's other duties and pleasures are three parts out of four in a boy's or girl's education.

Considering these two facts the most successful teacher can be one who is able to draw home and school-life together in his class-room. No doubt, I found that there is at present a tendency on the part of a teacher of giving such opportunities to his pupils; but in so many classes how many teachers have been able to achieve success in this direction? How many still consider that in a class-room there is a society to be guided by a combination of authority and liberty, that with discipline and control are to be faced ignorance and sin? Both must be encountered in the class-room but in defeating both, the teacher ought to have two faces like Janus. One face towards liberty and the other towards restraint. It must be so because restraint and liberty have each their place in moulding the character of a class-society.

Then in a class-room accommodation is calculated upon the aggregate amount of floor-space, irrespective of whether this floor-space is cold or otherwise unsuitable for school use or whether the necessary organisation of the school in properly graded classes permits it to be utilized. This is the condition which I noticed in several classes of school in Bristol during my visit to various educational institutions with the previous permission of Dr. W. Ludford Freeman, M.A., LL. D., Director of Education for the City and County of Bristol, who takes great interest in Indian students studying at the University of Bristol. But in one Elementary School I found that the class is so large that a teacher cannot give individual attention to every pupil or adopt his teaching to individual needs.

Most of the elementary school buildings are not adapted to the re-classification of pupils at frequent intervals in groups of varying size in order that they may receive instruction according to their aptitude and stage of mental growth, and it is because of the cost of re-building and of structural alteration that so little can be done to improve these defective and harmful conditions.

Again, in my opinion, children should reasonably be in different classes for different subjects, but I saw that in one and the same class several subjects are taught to children.

But while worried by these, I was favourably impressed by the candour and naturalness of the children. The boys and girls have an openness and frankness

of mind which respond to confidence and trust; they show respect and affection where affection and respect are not formally due but really deserved; and their minds, while a little contemptuous of conventions, are characterized by a fundamental honesty with which goes a power of shrewd observation as well as unwillingness to be hoodwinked. They are open to reason. They are wide awake. They of course know many things which their predecessors at the same age must have been too inexperienced to know, or were disposed furtively to conceal. They strike one as a generation which is prepared to face problems of conduct and of social order

frankly and unconventionally; which will show good humour, but at the same time a certain hardness, in dealing with difficult emergencies; and which is disposed to make gay use of present chances of comfort and pleasure.

Here I must in all fairness credit the teachers with having in other ways made a good job of a class. But education is given not by schools and teachers only, but even in higher degree by homes and parents, and also by factories, shops and offices and the employers of the young. The responsibility of education is heavy and prolonged and all share in it, and all of them are influenced by the atmosphere of the time in which we all live.

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(Fort St. George Gazette, 21st October 1913.)

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GEOGRAPHICAL HISTORY.

BY MR. S. RADHAKRISHNAN, B.A., B.ED.,
Specialist in Geography, Bapulla.

THE close interdependence of these two subjects, one upon the other, for mutual enrichment and vivification is too commonplace to be expatiated upon. History which is at its best a drama of human life in its collective aspect or a penetrating analysis of national character, fascinates us by its procession of events and the scenic animation it derives from Geography. Short-sighted History which goes on threading detail after detail and fact after fact is weariness to the spirit. Isolated facts—lists of kings, names of ministers, dates of wars, treaties, titles and all—are but stones for bread, whereas the evolution of life under particular environments, the narration of events with splashes of local colouring, and the appraisal of national strength or weakness by the help of the peculiar configuration of that nation's abode and the natural factors to which it is subject, are things which give realism to the subject and clinch it to the mind for ever.

I cite hereunder two different versions of the same event which amply bear out my remarks. The passages refer to the Danish invasions:—

(1) "After some centuries of rest fresh swarms of Teutonic barbarians began to seek for spoil in the lands which had once acknowledged Rome as their master. These were the fierce pirates known in England as Danes, in Germany as East-

men and in Gaul as the Northmen. They came from Scandinavia, both from Norway and Denmark.....The road by land southwards was blocked by the armies of Charles the Great, so the Norsemen took to the sea.....Greedy, ferocious, but terribly efficient, they could generally break down the resistance offered to them."

(2) "Some sea rovers from the north and east, fiercer than the Saxons of 400 years before and far cleverer, were beginning to harry the English coast from Northumberland to Kent.....Wherever they went they burned houses, killed their inmates and robbed the churches and monasteries. These people were the Northmen or Vikings, the dwellers in the creeks of Norway and Denmark."

I would add the following. The word Viking means a frequenter of viks (bays). The fiords or river valleys scooped out and deepened by glaciation and the 'skerry guard' or fence of islands before them were the nurseries and training-grounds of the Vikings of old and the Norsemen of to-day who are noted to be excellent seamen.

The difference between these two accounts is obvious and I would unhesitatingly say that the first suffers from the comparison. Except for the bald, unvarnished statement of fact that the Danes came from Norway and Denmark there is nothing to suggest the qualities

the author has ascribed to them—"greedy, summer time as plunderers and were ferocious but terribly efficient." Another statement in the same passage that the Danes took to the sea because the land route was blocked by the forces of Charles the Great is only partially true, if not a gross travesty of fact. More than the forces of Charles the Great it was their ingrained instinct which led them to the sea. The second, though better than the first in the power of suggestion, is still wanting in scenic setting which the words I have added provide to some extent.

Take another on the same subject.

(1) "At first they had come in summer time as plunderers and were content to sail home in autumn with their ships laden with booty that they might revel in their homes all through the dark and northern winter."

(2) "Then the foamy necked floater, most bird-like, started off over the billowy sea, urged onward by the wind until the curved prow had journeyed on so far that the voyagers saw the land—the sea-cliffs glisten, the steep mountains, the huge promontaries."

The authors of the above two have strained after different effects. In the first the home of the Vikings in the colder latitudes from which they poured on to the sunnier plains of south-east England is given to us by implication, whereas the author of the second has vividly conveyed a picture of the country in which the Danes lived. The best effect however is achieved by combining the two as follows:—"They had come in

summer time as plunderers and were content to sail home to their land of steep mountains and huge promontories where the sea-cliffs glisten, to revel there all through the dark northern winter." So far the way in which Geography can heighten the effect of Historical narration has been attempted without multiplying examples.

Chronology and Geography are the two eyes of History. These should be the eyes of the history student as well. The peoples of the world have each worked out the history of their countries in different fashions and the shores of time are strewn with a bewildering profusion of examples. Studying the history of the world we become more alive to the differences between one country and another than to the similarities existing between them. Why this should be so cannot be accounted for without the help of Geography.

There are many differences in the lines of development of Indian and English History of which I shall emphasise only one. Both these countries in early times were a prey to nomadic incursions but in England the process of racial integration or assimilation is evident whereas in India a tendency to the contrary asserted itself resulting in ethnic complexity. The fusion of races in the one contributed to national solidarity, the separatist tendencies in the other have become the breeding ground of communal squabbles and conflicting interests. What is the cause? Racial characteristics they may be or the

greater adaptability of the one to changing conditions than the other; but at the bottom of this all, the potent factor to bring about diverse tendencies in these two countries is geographical. The Romans, the Teutons including the Danes and the Normans by reason of their closer proximity to England and living almost in the same temperate latitudes of the earth have very nearly the same geographical influences operating and producing similar physical and mental characteristics to a greater degree than in the case of the Greeks, the Huns, the Muhammadans, the Mongols and the British who from time to time have poured into India from vast distances only to find a disparity of geographical conditions. The case in other words may be likened to a South Indian Brahmin who migrating to the north adapts himself to the changed environment with greater ease than an Eskimo or an Englishman.

Even the political and religious developments of a country are scarcely independent of geographical considerations. From times immemorial the history of India is being made and remade on the northern plains, they being the most fertile and nearest to the land mass of Eurasia. It is hard to imagine any future Government with its headquarters at Cape Comorin holding sway over the whole of India. Experiments in the past were made which needless to say ended in failure.

I shall briefly touch in passing on the religious beliefs in India which even unto the present exert a profound in-

fluence on the life and activities of the Indian people and how they have been influenced by geographical factors. Whether it be by accident or caprice when the Aryan stock from the breeding grounds of Central Asia poured through the flood gates of the north-western passes into the deep, tranquil waters of the Indian world they stood face to face with the sublime manifestations of nature—snow clad mountains, swift shooting streams, and foaming rivers, thick wooded spots and green pastures and undulating plains, rosy mornings, bright days and golden sunsets. The world then had hardly emerged from its swaddling clothes and these young infants who could scarce lisp any words overpowered by the sublimity of nature burst into song. The tree, the river, the sky, the sun, moon and stars and every speck of the universe were of the essence of God and herein do we faintly discern the seeds of Indian pantheism. Since then the Indian mind has revelled in the luxuriance of nature and sought to exhaust its reality through song, poetry, philosophy, and literature. When nature becomes too deep for words the mind becomes introspective and thirsts for realisation. To India therefore the path of victory is the path of peace and realisation and this is exactly why Napoleons and Nelsons are but rare products whilst Tagores and Gandhis are racy of the spirit and soil of India. "The East let the legions thunder past and plunged in thought again." Similarly the stretches of barren sand unrolled

before their eyes, unrelieved even by a speck of green struck the early Arabs with an idea of oneness which in times of unrest amounts to fanaticism quite uncompromising and utterly pitiless.

It is not possible within the compass of a small article to go into the details of every country and give them a geographical perspective. The qualities of tenacity, perseverance and hardihood which their ceaseless struggles with the sea have imbued the Dutch people with, the mountain barriers of Greece which by the political segregation they brought about led to the creation of City States and to various fruitful experiments in political theory, the importance of countries fringing the Mediterranean and their subsequent decline when the centres of trade shifted from the 'Thalassic' to the 'oceanic' stage and other such examples are taken for granted.

I shall briefly allude to one broad question and indicate the probable developments arising from it in the future. Being the smallest of continents with the exception of Australia it is in more than one sense correct to speak of Europe as a peninsula of Asia but its *unassailable* leadership in the material aspects of well-being throws into prominence the underlying geographical factors. The following figures will explain the point better. Europe with an area of 3,790,693 sq. miles constitutes 1.9% of the surface of the globe and 6.8% of the land surface only. On the other hand Asia has a surface of 17,009,640 sq. miles which works out to 8.6% of the total surface of the globe and 30.6% of the land surface of the earth. But the population of these two continents is not in keeping with their extent. Asia has one person for every 15 sq. miles and

Europe one for every 2 sq. miles approximately, making the relative density of population in Europe greater than in Asia. The railroad and telegraphic mileage of Europe is 200,000 miles and 530,000 miles respectively and that of Asia is 57,000 miles and 145,000 miles respectively. The postal business of Europe and Asia for the year 1905-1906 shows 22,969,920 delivered pieces of mail in the former and 2,203,983 pieces of mail in the latter. These differences are explained if we consider the utilisation of the ground in these two continents. In Asia arable land, meadows and gardens form 18%, heaths, low grounds and uncultivated places under which we may also include totally unproductive areas like deserts and mountains form 65% of the surface, and woods and forests consume 17% of the area. The unproductive areas of Europe form only 21% and the productive ones 79% of the surface of the continent. In other respects also—natural resources, military preparedness, trade and commerce and religious affinities Europe bears the palm and we are confronted with the question whether the centres of political power would shift from the West to the East.

A geographer is not a prophet but within the limits of his science a reliable interpreter of the existing condition of things and their probable lines of developments in times to come. Asia being comparatively poorer than her western neighbour in material equipment any thought of wresting power by force is next to useless. As it has already been pointed out the armies that Asia can mobilise and put on the battle-field will be far less efficient than the force of Europe as a continental Asian army can neither be a well-knit, homogeneous unit in the face of serious differences in matters of religion, temperament, tradition and diet nor can it include its entire population for one has to strike out the etiolated people of the frigid north

Was it in any way connected with the Bṛhadphalāyanas? All these questions are easier put than answered. All that we now know is that, some time before Samudragupta's invasion about 340, the Bṛhadphalāyana dynasty ceased to exist or was absorbed by Veṅgi or Palakkāḍ, preferably the former. Whether the Veṅgi ruler was a scion of the same line or of the Śālaṅkāyana dynasty which figured presently we cannot say.

THE ŚĀLAṆKĀYANAS.

About 350 A.D., that is, shortly after Samudragupta's return to Āryāvarta, the region between the Godaveri and the Krishna was, we understand positively from inscriptions, under a dynasty called the Śālaṅkāyanas. As has been already said, we cannot say whether Hastivarman of Veṅgi, who was one of the confederate chiefs who opposed Samudragupta, was a Śālaṅkāyana or not. How the Śālaṅkāyanas came to power it is unknown. All that we know is that they had their capital at Veṅgipura, that is, Pedda Vēgi near Ellore, just halfway between the Godaveri and the Krishna and immediately to the north of the land (Gudrahara) which contained the Bṛhadphalāyana capital. It may be presumed that they were the immediate successors of the Bṛhadphalāyanas.

The name Śālaṅkāyana affords a theme of interest. Śālaṅkāyana was a teacher of the Vamśa Brāhmaṇa,¹ and a Śālaṅkāyanīputra figures in the Bṛhadāraṇyaka² Upanishad. Later on the Purāṇas include the Śālaṅkāyana gōtra among the gōtras derived from Viśvāmitra. We do not know how the royal

clan of Veṅgi came to connect itself with this ancient Vēdic clan. Apparently it was an assumption induced by the desire for prestige. In any case, the Śālaṅkāyanas were patrons of Brāhmanical scholars and teachers and continued the work of the Bṛhadphalāyanas for the Brāhmanization of the Telugu country.

Two inscriptions alone are available in connection with the Śālaṅkāyanas. One of these is in Prakṛit and was issued³ from Veṅgipura by Vijaya Dēvavarman, the first of the three or possibly four kings of the line known thus far. We are told that the king addressed the villagers of Ēlūru (Ellore) to the effect that a certain Gaṇasārman of the Babhura gōtra was given twenty Nivartanas of land in a handsome locality (सुन्दरपदेशं हि) as house-site (घरटानं) for himself and his tenants (addiṇa-manussūṇam) and servants (duvag-gūṇam) free from all immunities (parihāra-rakkaṇam). The record is dated on Pausa Bahula 10, in the 13th year of Vijaya Dēva-

³ Called the Pedda Vēgi Plates of Vijaya Dēvavarman, and published in Ep. Ind. IX, p. 56 ff. It forms Kn. 218 in my *Madras Topo. List of Inscriptions* and No. 1194 in Luders' List of Brāhmi Inscriptions. (A mistake has been committed there by me in giving Kielhorn's name instead of Luders'). The record has some obscure words. The villagers are, for instance, said to be headed by the *Muluda* or *Munuda*, apparently a Dravidian word of uncertain meaning. Fleet solved the problem by changing it into Amātya! Similarly *Addiyamanussūṇam duvag-gūṇa* is translated by Hultzsch as 'men who received half the crops and door-keepers.' Hultzsch was unable to explain *Babhura* and simply noted that Kielhorn suggested to him that it might be *Bubhru*. *Babhru* figures as a student or teacher in the Rg-vēda, the Aitarēya Brāhmaṇa and the Pañchavimśa Brāhmaṇa. The Purāṇas make *Babhura* gōtra one division of the Viśvāmitra-gōtra. In the *Topo. List* the name of the deity is wrongly given as Chitrānātha-svāmin.

varma's reign. The king is said to have performed the Asvamedha, to have been a fervent Mahēśvara and to have meditated at the feet of Chitrarathasvāmin. The ruins of the temple dedicated to this deity are visible at Pedda Vēgi even now.

The other Śālaṅkāyana record,¹ which is in Sanskrit, was issued from Veṅgipura by Vijayanandivarman, eldest son of Chaṇḍavarman and (probably) grandson of Vijaya Dēvavarman. The king calls himself a devotee of Chitrarathasvāmi, disciple of the venerable Bappa (*Bappa bhāṭṭāraka-pāda-bhaktah*) and a *Parama-bhāgavata*. He commanded the villagers of Vidēnūra pallikā in Guḍrahara-vishaya to the effect that, for the sake of the prosperity and prestige of his family, he gave away that village to 157 Brāhman scholars of different gōtras and charaṇas living in the agrahāra of Kuruvāka. The donees were to be free from all taxation and their rights were to be respected as such (देशाधिपत्यायुक्तक वल्लभ-राजपुरुषादिभिस्त्वर्पिरहारैः परिहर्तव्यो रक्षितव्यश्च). The record is dated Pausya Kṛṣṇa 8 of the seventh year of the king's reign, and it concludes with the statement that the royal dues of the village were to belong to the donees² (तत्राज्ञापतिः मूलकरभोजकाः).

A third record³ of the Śālaṅkāyanas, which is however very obscure and illegible, refers to Vijayanandivarman and his son Yuva-mahārājā Vijaya Buddhavarman. We cannot say, owing to the obscurity of the record,

¹ Kn. 237 in *Madras Topo. List*; M.J.L.S., Vol. XI; Ind. Antq., V, p. 177; S. Ind. Paloco, q. 14, plates 20-1. The Plates were originally discovered near Kolleru lake, and are now believed to be in the British Museum.

² See Ind. Antq., V, p. 177 footnote † for discussion of the meaning of this obscure phrase.

³ *Ibid*, 175-6.

whether Buddhavarman succeeded Nandivarman and, if so, how long he ruled.

Some time about the middle of the 5th century—for we can assign the three or four Śālaṅkāyana kings to the period ranging from 350 to 450 A.D.—the Śālaṅkāyanas gave place to the Vishṇukunḍins. The circumstances under which this took place are not quite certain. But from the fact that Mādhavavarman, the first king of the Vishṇukunḍin dynasty, had, like the Vākāṭaka queen Prabhāvatī, the Lord of Śrīśailam for his tutelary deity, and that he had a Vākāṭaka princess for his wife, Prof. Dubreuil has suggested that the Vākāṭaka king Pravarasēna II probably conquered the Śālaṅkāyana kingdom and then appointed his son-in-law Mādhavavarman as the ruler of the conquered region. In any case, Mādhavavarman's dynasty lasted for about six generations and then fell under the Chālukyas.

The services of the Śālaṅkāyanas lay chiefly in the promotion of the Vēdic dharma at the expense of the Buddhist dhamma. Fa Hian, the Chinese pilgrim, gives an incredible and hearsay account of the wonderful monasteries in this part of the country. The extremely unreliable nature of his narrative can be seen from the fact that he mentions a people who could fly! He narrates a story according to which the inhabitants of a village expressed wonder at the fact that the Buddhist pilgrims who frequented the Dakkan did not fly while all other religious people thereabout were able to do so and that the Buddhists explained the deficiency on the ground that their wings were not yet perfectly formed! Fa Hian describes a remarkable monastery, that of the former Buddha Kāśyapa, which is very instructive. The whole

¹ Vēdic Index, Vol. II, p. 375.

² *Ibid*, p. 376.

and the dweller of the tropics. The only course left open is that of peaceful conquest with neither weapons nor war. The stage has already been set in the heart of Asia and the curtain rung up. The verdict of geography and history alike go to prove the efficacy of this method which in years to come will stand vindicated.

The areas and phases of human concentration in early times is another instance in point. The instinct of gregariousness led to the massing of individuals which as time went on brought in division of labour and made the struggle for existence keener. The predominating influence of environment in the matter of human distribution is borne out by the seats of the earliest civilisation which history presents us with. The civilisations were at first 'fluvial' or clustering on the banks of rivers and in river valleys. In fact it is no exaggeration to say that the guiding lines of historical progress were shore lines. Egypt on the banks of the river Nile, Babylon between the twin rivers the Tigris and the Euphrates and the Aryan and Chinese civilisation on the plains of the Ganges and the Hoangho are a few outstanding examples. The archaeological finds in these places disclose distinctive and specialised types of civilisation preserved not only in inscriptions but in marvellous works of artistic merit. A study of the history of these countries is revelational alike for the divergences and similarities existing between one another.

The second phase of concentration was around inland seas like the Mediterranean and the Baltic. The clustering of people on these borders could not have taken place at one and the same time nor could this have been synchronous with river-valley concentration as this pre-supposes a knowledge of navigation. It was the *Ægean* area in the eastern Mediterranean that became the scene of the first cycle of cultural

development. The excavations conducted by Dr. Schliemann on the coast of Asia Minor to fix the site of Homer's Troy pointed to the existence of a civilisation older than that of Troy. As the people in one region outgrew the narrow confines of their homeland the cultural cycle expanded westwards to Greece and onwards to Rome. The achievements of these people and their contributions to the stock of knowledge, "the glory that was Greece, and the grandeur that was Rome" show once again how the modes of life and thought of a people are knit up with the natural features of the region and how they are encouraged by them. The fertility of the soil and the clemency of the climate combine to make life easy and pleasant but not so pleasant as to produce sloth and idleness, while the eastward and westward expansion of the Mediterranean led to cultural contacts productive of enlightenment.

With the 'Renaissance' or the cultural awakening that swept over Europe the importance of the Mediterranean dwindled whilst that of the Atlantic rim increased. The ferment of maritime enterprise that began in the 15th century with the systematic coasting explorations of the Portuguese followed by those of other nations opened up more habitable regions and greatly accelerated the development of the Atlantic sea-board.

The fourth and latest phase of concentration will be the Pacific Ocean the developments on whose borders though nascent are still sufficient to warrant this assumption. The adoption of western modes of thought in Japan, the opening up of China and the coupling of east with the west by means of trans-continental railways indicate forcibly that the war-riven land hemisphere will turn to the water hemisphere on the other side the smooth waters of which have remained unsullied by the breath of conflict.

EAST DAKKAN IN THE GUPTA PERIOD.

BY PROFESSOR V. RANGACHARYA, M.A.,

Presidency College, Madras.

(Continued from page 557).

PASSING on to East Dakkan, we have reasons to believe that there were three dynasties in the Gupta period. Of these the Śālaṅkāyanas and Vishṇukunḍins ruled successively over the Telugu country, while a separate line of kings, or more than one, ruled over the Kalinga country. We shall deal in this article with the Telugu country, leaving the Kalinga history for the next.

THE BRHADPHALĀYANAS.

On the fall of the Āndhras, the southern half of the land between the Godaveri and the Krishna came into the hands of a dynasty called the Brhadphalāyanas.¹ They had their headquarters at Kuḍūra² which has been identified with a village of that name four miles to the west-north-west of Masulipatam or Bandar and six miles from Gaṇṭhasāla. Only one king of the dynasty is known, namely, Jayavarman. He issued 'the Koṇḍamudi³ Plates' from which we understand that he gave a village named Pāṇṭura in Kuḍūra-

¹ All the information regarding the dynasty is given by Professor Dubreuil in his 'Ancient History of the Deccan,' pp. 84—8.

² *Ibid*, p. 85.

³ Koṇḍamudi is in Tenali Taluk. See *Topographical List of Inscriptions of Madras Presidency*, Vol. II, p. 842, Gt. 838. Also Ep. Ind., VI, pp. 315—9. Dr. Hultzsch thought the inscription to be not far distant from Gautamīputra and Vasishṭhīputra of the Āndhra dynasty who issued the Karle and Nasik inscriptions; but Dubreuil points out that it must be *later* as the seal, though not the body of the inscription, is in Sanskrit. He would place it in the 3rd century.

hāra (i.e., Gudrahara near Masulipatam) to eight Brāhmaṇas.

No other king of the dynasty is known. We cannot therefore say whether Jayavarman was followed by any other kings of his line and, if so, how many of them. The next historical glimpse of this part of the country is available only in the inscription of Samudragupta about 340 A.D.; and this shows that the country from Vizagapatam to Chingleput was ruled by several kings who might have been under the nominal supremacy of the Pallavas of Kāñchi. These chiefs were Nīlarāja of Āvamukta, Hastivarman of Veṅgi, Ugrasēna of Palakkā, Kubēra of Dēvarāshṭra (Vizagapatam district) and Dhanañjaya of Koṣṭhalapura. There is no reference in this to the Brhadphalāyana of Kuḍūra. We have to infer from this that that dynasty must have ceased to exist some time before 340, unless we suppose that Hastivarman of Veṅgi was a member of the line and ruled from Veṅgi instead of from Kuḍūra further south. But we have no means to know whether Hastivarman belonged to the Brhadphalāyana or to the Śālaṅkāyana line which we shall refer to presently. The same uncertainty hangs round the identity of Ugrasēna of Palakkā and his relation with the Brhadphalāyanas. We know that, in a few years after this, the Pallavas of Kāñchi were ejected from the Tamil area and compelled to rule from Palakkāḍ and two other capitals in Nellore district. But at the time of Samudragupta's invasion, Palakkāḍ was a principality, distinct from the Pallava.

structure of the Saṅghārāma, he says, was hollowed out of a rock into the proper shape. "The building has altogether five stages. The lowest with elephant figures has 500 stone cells in it. The second is made with lion shapes, and has 400 chambers. The third is made with horse shapes, and has 300 chambers. The fourth is made with ox-shapes, and has 200 chambers. The fifth is made with dove shapes, and has 100 chambers in it. At the very top of all is a spring of water, which, flowing in a stream before the rooms, encircles each tier, and so, running in a circuitous course, last arrives at the very lowest stage of all, where, flowing past the chambers, it finally issues through the door. Throughout the consecutive tiers, in various parts of the building, windows have been pierced through solid rock for the admission of light, so that every chamber is quite illuminated and there is no darkness. At the four corners of these edifices they have hewn out the rock into steps, as means for ascending." Fa Hian notes a remarkable fact about the mendicants who occupied it. They were of small stature and ascended to the top of the ladder in the usual way unlike the tall men of old who reached it at one step! The whole building was called *Poloyu*, an Indian word signifying 'pigeon' and ever full of Arhats. But that its influence on the population was not very great is evident from the fact that, not far off from it, were villages inhabited by heretics who had no religion of their own and who knew nothing of the land of the Buddha or Śramaṇas or Brāhmaṇas.

(To be continued).

A TEACHER OF ENGLISH GRAMMAR AND COMPOSITION

BY SIMHADRI APPAYYA,
 Late of the Maharajah's College, Vizianagram.

Vol. I. Price : Rs. 1.

(Approved as a Text-book by the Department, May 1914.)

SRINIVASA VARADACHARI & CO., 190, MOUNT ROAD, MADRAE.

WEST GODAVARI SECONDARY TEACHERS' GUILD. PRESIDENTIAL ADDRESS AT THE THIRD ANNUAL MEETING. BY MR. R. VENKATASIVUDU PANTULU, M.A., L.T.

THE TEACHER.

I AM sorry that owing to want of health and peace of mind at present, my address instead of being a continuous and close-knit discourse, may have rather the appearance of a cluster of detached, desultory thoughts. I may however assure you that what I submit on this occasion constitute some of my sincerest views and most cherished convictions.

TEACHERS' GUILDS.

I wish to say a few words about Teachers' Guilds in general and your own in particular. Accept my humblest felicitations on the starting of your Guild some three years ago. It is the first stroke that decides the battle. Let me hope that you will ever keep your enthusiasm up at a high level, so as to make the Guild a reality and its work a success. These are times of organisation. All trades and professions in the West have their Guilds. In our own country the sister learned professions of law and medicine have their separate organisations. Medical Councils and Bar Associations are a tower of strength to the respective professions. A Teachers' Guild is a sheer necessity. It makes for strength and solidarity of the teacher's profession. Questions affecting the well-being and progress of the profession have often to be freely discussed and decided before large bodies of members. These are days of rapid progress. If the teaching profession must prosper and if India must take its proper place among the nations of the world, then teaching should be well organised in our country and its organisations should become a force in the councils of the nation.

If good work is expected, the work of Teachers' Guilds must be substantial. The mere holding

of occasional conferences and passing of spasmodic resolutions will not avail much. The Guild must start with definite aims and aspirations. In dealing with the larger questions relating to the teaching profession, the Guild must show a breadth of view and depth of insight which wise statesmanship requires. Firmness of resolution and perseverance in the pursuit of ends are necessary for success here as in other fields of life.

CHARACTER.

If the teaching profession in our country desires to be largely respected, teachers will have to conduct themselves worthily as members of a noble profession. For one thing, it is necessary that they begin life with more of self-respect. They must start with the firm conviction that "Sovereign Power" can never be wielded with the hands of "Slave Mentality." The poet has said :—

" Truth from his lips prevailed with double sway,
 And fools who came to scoff remained to pray."

This is as much a picture of the true teacher as of the preacher, rural or urban. He seeks in vain indeed to convert the many scoffers within the fold and without, whose practice does not square well with his principle. The profession will thrive only when the teacher values himself more by what he *is* than what he *has*; more by duties discharged than salary earned.

INSUFFICIENT SALARIES.

And this leads me to speak a word on that vexed question of the inadequate remuneration of the teachers. Comment need hardly be made on the iniquitous treatment meted out to the members of a profession which is expected to equip men for

all walks and professions, itself being contented with a starvation allowance! Not simply a living wage but a provision quite in keeping with the respect due to it,—this represents the minimum demand of the teacher. But when all this is said about our rights, will it not be well for us to consider our own manifold duties? It will do good to our souls to remember how according to the best traditions of our country, the teacher ever put spirit before matter and assumed the vow of poverty, spurning worldly gains. How soul-elevating it is to contemplate the noble ideals which religion inculcates by placing self-sacrifice in the forefront of the world's programme and by exhorting man to mind duty irrespective of consequence—the soul of all of which ever formed the basis of the profession of teaching in our own country! Does it well lie in the mouths of the votaries at that sacred shrine now to set up the cry for more bread and raiment? It may be that others freely talk of material advancement and consider the clamouring for more loaves and fishes as the right rule of life. But we that know or ought to know better,—should we not start with contentment and straightway proceed to duty counting gains and losses on the way as things of little account?

SALARY OR HONORARIUM.

Things and theories are whirled fast now in this fast changing world. In these days of economic depression, which by the way is confined not to one province or country but extends throughout the world, political economy seems to begin sounding a note which jars on its own ears! The theory that judged the wealth and well-being of individuals and nations by an ever increasing number of wants supplied, seems to be silently transformed into the opposite Carlylean principle which places ideal in cutting down the number of wants themselves! Especially in a country like ours, where Swaraj politicians would rigorously limit the salary of the highest

official to a modest five hundred a month, would it not be in the fitness of things if the teacher rose to the occasion and volunteered to work on some slight honorarium and thus saved himself the approbrium of being a hireling and wage-earning mercenary.

EDUCATION, ITS DUAL NATURE.

The old order has changed in the basic view of education. If formerly they thought that teaching consists in putting new things into the pupils' mind, we content ourselves now with simply drawing out what is hidden therein. Obviously the new theory is more subtle and psychologically saner. But, I would ask you to see if it too does not savour somewhat of the gross and mechanical. In both, there is the crude manipulation of material, albeit there is more of mind stuff than of matter in the second one. If in the first it is the pupils' mind that is passive, it is the teacher that plays the passive, subordinate role in the second. The idea of comparative helplessness of the chief actor of the drama and the reign of a rigid law, are merely transferred from the pupil to the preceptor, in the second. But properly speaking education is not such a listlessly insipid hide-bound affair. The soul of the pupil is equally active in it with that of the teacher. In the process of education, pupil and preceptor are in communion with each other, and with the spirit of Nature around. The marks of the receiving mind of the pupil are no more evident and important than the moulding influence of the teacher. The individuality of neither pupil nor teacher is submerged in the act of education, which therefore is a composite growth, a graft plant whose fruit throughout life exhibits the marks of its dual parentage.

THE TEACHER—A LIVING INFLUENCE.

That the teacher is not a mere auxiliary, but has an important part to play in education has

an openly acknowledged by the illustrious pupils from Marcus Aurelius down to Hugh Miller. Europe has borne ample testimony to its truth in the lives of her greatest men and thinkers such as Plato and Cicero. This is a revelation to India where tradition has looked on the teacher as next only to God Himself. The influence of the teacher, especially in moulding the moral side of the pupils' nature, can scarcely be over-estimated. It is not a mere adventitious circumstance, a passing phenomenon in the early mental life of the pupil but a potent, ever-present feature throughout his career, calculated to play the mighty part in his thoughts and habits.

That the part which the teacher plays in the development of the pupils' mind, is not generally evident is because of the exigencies of modern education which require instruction to be imparted to large numbers at the same time. Both elementary and in secondary schools, though there are limits to the numbers in the classes, they are still large enough to make teaching rather insipid and impersonal. In colleges, moreover, there is practically no such limit even. The education thus imparted has therefore to be spoken of as a sort of collective education. Here the individuality of both pupil and teacher—perhaps more of the pupil than of the teacher,—is ever at a vanishing point. Teaching then is not what it ought to be. It is not a warm, direct, inspiring, mutual converse between two sympathetic souls, but a cold, distant voice addressing itself to a huge mass of mute shadows! It is no wonder that in such circumstances where the teacher sees not the tree or the wood, there is no possibility for the springing up of intense personal feelings between the teacher and the taught, which constitute sometimes the basis of the best friendships and the most intimate attachments in after-life.

PASSES AND FAILURES.

I am sorry to have to invite your attention to a discouraging feature of our present educational system. Owing to the peculiar standards of education adopted, whereby the passing of examinations has come to be looked upon as the be-all and end-all of school-life, teacher and student alike are obsessed by a morbid mentality which practically rules out of court the attainment by the latter of any higher and more substantial qualifications. Culture and erudition are to be shunned as things out of the way, as a sort of SIranian Music designed to mislead the unwary student to his own certain destruction! And even in adopting the erroneous system of examinations as our guide, I fear we teachers are guilty of a further mistake in frequently counting our gains and not our losses at all. We take into account not so much the failures as the passes of our schools. So, we are mightily pleased with our own performance, with the number of successful candidates, all the while coolly ignoring the fate of huge numbers of unsuccessful students whom we practically disown, to whom we do not condescend to extend a sympathetic hand! Happily, failure in an examination is not always identical with the large failure in life, or else, we should be made answerable before a higher tribunal for our guilty part in these countless cases of double tragedy.

"SELECTION OF THE UNFITTEST."

I do not know if my brother-teachers have bestowed much serious thought on another gloomy aspect of the teachers' handiwork, the selection of unfittest material. Strictly speaking we have often no option in the selection of our students. A huge mass of student-population comes drifting on at the commencement of each year for admission into your institution. Along with some really good students, quite a large number of unpromising ones—unpromising not intellectually alone but morally also—are forced

upon you. And the tragedy of it is that you come to know this a little too late. Moreover under the circumstances, for reasons financial or other, you reconcile yourself to the inevitable, hoping however that at the time of the next annual deluge, better financial circumstances permitting, your school will be able to disgorge the bulk of this undesirable stuff, who are a drag to your classes all the year round. But lo! the year coming round finds that you are only a dupe of your own expectations. The same confounded financial or other exigencies preserve the bulk of your undesirables to you! Of course your consolation this time is that some of these have earned their worth by their pass; while as regards the rest—why, are they not paid in their own coin by being detained? Thus the rigour of your righteous indignation becomes softened and your principle gets diluted more and more as the years go by. And even supposing that you managed to eject your small quota into the general stream of undesirables, I do not know whether your conscience did not prick you for the contamination so spread at your instance or whether the economical side of your soul did not smite you for the financial loss your scruples have brought upon your institution!

STUDENTS WITH CRIMINAL TENDENCIES.

Meanwhile let me draw your attention to another aspect of the problem which is more gruesome still. Were you not, teacher, at times staggered when it was brought to your notice that your school had unwittingly given shelter to boys with morbid criminal instincts and tendencies? These urchins, who are not confined to a particular class or caste, are a menace to the safety and moral tone of the school. This time at least, you fancy, the world expects you to rise to the occasion. But you hardly make a move in this matter when to your surprise, there spring up in unexpected and influential quarters supporters of these much calumniated young innocents! Should

not the teacher who is true to his sacred soul-saving vocation, think not only of improving the good, but of saving the guilty and the erroneous?

I would ask my brethren squarely to face the facts. It is no doubt a duty, aye, it is a proud privilege, for a teacher to be able to lead the recalcitrant ones back into the fold. One of the greatest of the world's preceptors said that the good shepherd is ever ready to leave the flock and go in search of the erring sheep. It is the stricken patient that needs the help of the physician most. All this is mightily tempting. But I would ask you not to allow the real issue to be clouded by appeals and exhortations. Should the school be treated as a moral asylum for the reclamation of the morbid and the criminal? Rather is not the ordinary school intended for the education of the normally constituted boy, while the abnormally guilty ones, students or others, should seek relief elsewhere in mental hospitals or lunatic asylums? The presence of an individual of this class is sure to import and spread fast epidemic poison in the otherwise wholesome atmosphere of the school room. We must be just, before being generous. The ordinary school is not the place for trying risky experiments with lads of maniacal dispositions and abnormal criminal tendencies. In America and other Western countries, it seems specialists are engaged in the reclamation of such children. Every one will naturally feel interested in such experiments which are of a highly psychological value.

EDUCATION AND CHARACTER.

Meanwhile we may ask ourselves the broader question, whether and how far Education really recast the moral nature of man. That it gives a modicum of polish to all the rude and the ignorant is a thing beyond all doubt. Whether it can really go beyond this and reconstruct man's moral nature is a highly controversial problem.

The Sanskrit poet seems to be right when he says that if culture makes the good better, as often it makes the bad worse. In the ancient drama "Mrichchakāṭika," Sarvilaka, the Brahmin, well-versed in Mathematics and Science of Theft scrupled not to employ his sacred thread in taking measurements of the hole he bored through the wall! Instances of culture and crime going together are not confined to a particular age or clime. One thing seems certain that Modern Education, which is more or less entirely intellectual, sinks not deeper into the soul. Whether supplementary religious and moral instruction will retrieve the situation is open to doubt. After all, in all such instruction, the appeal is generally to the intellect, which is quite an unsafe guide. In a recent account of the work of the Ramakrishna Mission Home, Madras, mention was made of the great moral influence exercised by the Mission on the student-boarders. It will be an interesting experiment for some of our public schools to copy the good features of such Homes and Gurukulas, so as to provide in some measure sacred atmosphere for the benefit of students therein. It is highly desirable that our young men over whose education the means of the poor parents are often exhausted, should form betimes healthy moral principles which lead to useful and upright lives. Education without the formation of character in the case of our young men, is hardly a matter for congratulation.

PHYSICAL EDUCATION.

A word has to be said about the physical education obtaining in our schools and colleges. Though under the rules provision has to be made for drill and sports in our schools, the average student manages to go without any physical exercise worth the name. Things are still worse in colleges where the expectation is that students interest themselves more largely in sports. It is no wonder that cases of physical breakdown and

premature death should so often occur in the ranks of our students who are characterised by overworked brains and undeveloped bodies. It is time that heads of educational institutions devise some efficient remedy for this deplorable state of things. If there is any matter in which the teacher is justified in playing the autocrat and benevolent despot, it is here in overcoming the aversion of his students for physical exercise by making sufficiently stringent rules and suitable arrangements on the subject. A good daily exercise with Sandow's and Indian clubs, or in some other form, should be made compulsory for each and every student. Surely, it is as much within the purview of the teacher to look after the improvement of the physical side of the student as of the intellectual. If the Indian nation hope to have a future, the several young men who attend schools and colleges in the land at present must lay strong foundations in their student days for a good physique and for a good moral character.

RECENT POLITICAL UNREST.

I should like to touch on only one minor point before closing. The year that has passed is justly considered to be one of the worst for various reasons. Economic depression and political unrest made themselves felt even in the comparatively peaceful atmosphere of the school room. Perhaps it is schools and colleges that were worst affected in a way. As a result of the political unrest the relations between the teachers and the taught became unduly strained and discipline materially suffered. It is idle to pretend that students did not vociferate or that teachers did not cherish strong feelings when hundreds of their countrymen daily courted prison-life for the sake of liberty. Schools and colleges would be more than human if they behaved otherwise. In those days when feeling ran high in the bosom of students, heads of educational institutions had a really trying time. But, thanks to the Gandhi

Irwin pact, all is calm once more. But if clouds were to gather and heavens were to lower again, as is most likely, according to the predictions of some of our prominent men, it is for teachers to consider how they should confront the coming storm. What we are now contemplating is policy, not politics which is forbidden ground to the teacher. No teacher, I daresay, wishes to pass through the ordeal a second time. Discipline which is the alpha and omega of school life, presupposes peace and the prevalence of normal conditions in the land. Political unrest is subversive of all peace and order in the school, which is but the country in miniature. Already the teacher found himself once in a very delicate situation when Crown and Congress were pitted against each other and he himself was expected to choose between loyalty and patriotism. Had the problem concerned himself alone, perhaps he would have endeavoured to solve it according to his own lights. But he was made responsible for the good behaviour of wards, with immature heads and inflammable hearts. What made the problem still more complex for him was that in some cases, in an emergency, he was left in the lurch by the very management whose help he naturally counted upon! Strikes, hartals, monster processions produced their own repercussions in various forms within the four walls of the school and the teacher thrown more or less entirely on his own resources, had to deal with all these in his own way. Often he found himself like a piece of iron between two powerful magnets when the Department was hostile to the policy of the management or to the practices of the students. It is time therefore that teachers and those that are responsible for educational institutions, gave their best consideration to the problem and decided on the course to be pursued by schools and colleges on a recurrence of the difficulty. Perhaps the best course would be to suspend the working of educational institutions entirely during the period of the political trouble so as to avoid the danger of tempting students to make the school-room a stage for the enacting of their petty political dramas! This course would moreover obviate the necessity for the teacher playing a part in a double and difficult game.

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ELECTRICITY FROM SUNLIGHT.

Dr. Bruno Lange of Berlin has recently perfected a device which converts sunlight into electric current at a price which may compete with present hydro-electric installations. An expansion of human engineering activities to a new scale, similar to what happened after the invention of the steam engine, is foreshadowed by this latest development in photo-electricity.

A BETTER ANÆSTHETIC.

Through the use of a new group of anæsthetics known as the amyl ethyl barbituric acid developed by Dr. Shoule and his associates, it is possible for physicians to reduce the nausea that often follows operations, give the patients greater comfort and subject them to far less mental distress. The new preparation is closely related to veronal which is now largely used as a sleep-producing drug.

TESTING PAPER FOR PERMANENCE.

The Bureau of Standards of the U.S. Department of Commerce has devised the following test. If a piece of news-print paper can pass the test of being baked for 72 hours at the boiling point of water, it is suitable for printing permanent library editions.

PLANT GROWTH.

Just as men or animals will sicken if they do not get enough salt, so do plants become stunted if they are starved of one or other of the mineral nutrients they need. Experiments have shown that sugar-cane must have its modicum of potassium in order to remain healthy. Deprived altogether of potassium, the cane plants suffer from decreased growth and deficient development of their all-important green colouring matter.

ULTRA VIOLET LIGHT AND OUR FOOD.

Prof. Sperti and his associates have found it possible to sterilise milk, orange-juice and other food products by exposing them to narrow spectral limits of the invisible ultra violet light. Foods so treated act in all ways as if they contain Vitamine D, which prevents rickets.

THE CURATIVE POWER OF INK.

For generations, ink has been a successful household remedy for the treatment of burns. This remedy has a scientific basis. Most black inks are simply weak solutions of an iron and tannic acid compound. Dr. Stammel has recently discovered that tannic acid itself is an efficient method of treating burns.

* * * *

WHAT WILL OUR 'NEXT WAR' BE LIKE.

The much discussed and widely debated "Next War" which some people anticipate—may God forbid!—will probably be the worst that the world has ever experienced. It will have gas as the leading player and aviation playing opposite. In one night, peacefully employed chemical manufacturers would be producing gas to rob their fellowmen of their senses and even their lives—mustard gas, lachrymatory gases, arsenical gases, etc.

That peace-time chemistry is closely allied to war-time chemistry is illustrated by the following example. Common salt is used to manufacture chlorine which in peace-time bleaches our clothes and in war-time goes to form great quantities of that diabolical stuff of phogene.

The most important ally of gas will be the air-plane which could easily fly over the enemy and dump a load of gas on them, thus rendering a whole city helpless in a short time.

This is an additional reason in favour of disarmament.

* * * *

THE STORY OF FIRE.

Among the manifold conditions which have raised man to a real cultural life, the use of fire, above all else, stands foremost. Its value to man found early expression in Greek mythology according to which a Titan by name Prometheus is reported to have stolen fire from the gods and become protector of mankind. While according to the Sagas of the northern peoples, the Fire-God Heimdall came to mankind in the guise of a fairhaired youth to present the blessings of civilisation. The origin of fire is still a myth.

Throughout a great variety of different tribes and races fire is produced by rubbing two sticks of wood together with some easily combustible material, such as dry leaves, between. The American Indians bored fire in much the same way using a spindle whorl driven by a bowstring. Another fire-lighter even now used by the Eskimos consists in striking two pieces of hard stones—flints—when sparks formed are used to light some easily inflammable substance.

These fire-rubbing methods can be accomplished only with considerable labour. So to avoid the necessity of preparing fire, too often, people in former times kept the fire burning through the whole twenty-four hours. On account of the immense importance of fire to man a religious stamp was given to it so that each temple hallowed an undying fire, the Romans consecrating the Vestal Virgins to tend the holy fire.

The old fire-striker has now a counterpart in the cigar-lighter of to-day. This lighter consists of a piece of iron which contains a little of the rare metal cerium. On striking the stick of cerium-iron alloy against a side of the box covered with a plate of roughened metal, sparks appear which fall on a wick moistened with some easily combustible liquid.

Towards the end of the 18th century came into use the pneumatic lighter which consists of a glass cylinder of narrow bore with a piston. On driving the piston rapidly inwards with a powerful rush on its handle, the air in the cylinder was rapidly compressed, and sufficient heat developed to light up a bit of tinder. This fire was transferred to a sulphur-tipped stick.

After the discovery of hydrogen, Dobereiner suggested a fire-lighter by which he let the hydrogen gas stream out into a piece of platinum sponge. Large quantities of hydrogen gas condense upon this material and this causes a development of heat sufficient to set fire to hydrogen.

Yet all these fire-lighters were not very convenient and they were replaced by 'chemical lighters,' the first type of which was invented by the Frenchman Chancel in 1805 and known as chlorate matches. It was based on the fact that potassium chlorate in the presence of sulphuric acid sets fire to sugar. Wooden sticks, one end of which was dipped in molten sulphur to get a thin layer, and then coated with a gummy mass of potassium chlorate and sugar formed the match. When the ignitor end was dipped into a bottle containing asbestos wet with concentrated sulphuric acid the sugar in the tip was lighted, next the sulphur and finally the wood of the match. Such matches were long held in high esteem. This was succeeded by the striker match invented by Trevany of Vienna in 1832. Here the ignitor consisted of a mixture of potassium chlorate, antimony sulphide and gum attached to the sulphur dip of the stick. By drawing the tip rapidly over a piece of sand-paper, the stick took fire. Often the tip was lost on striking the match and it did not find therefore much favour.

They are to-day replaced by matches using phosphorus. This element was discovered in 1669 by a Hamburg merchant named Brand who kept it a secret and exhibited its light-bearing properties to aristocratic audiences including Charles II, thereby amassing a great fortune. The discovery awakened unprecedented attention and the new substance came to be considered as worth its weight in gold.

Though phosphorus was first prepared from wine, it exists abundantly in bones as calcium phosphate. Bones are burnt and the resulting bone ash is treated with sulphuric acid. The mass is later ignited with carbon when phosphorus which distils over is condensed to a solid by leading into water.

The first phosphorus matches were manufactured in 1816 by the Frenchman, Derosue. Though the initial attempts resulted in explosions, accidental fires and toxing poisoning, such considerable improvements have been effected in the match industry, that it is at present one of the staple industries of Sweden. The yellow phosphorus which was responsible for all the accidents could be converted on heating to 260° in a closed vessel into a red variety possessing non-poisonous properties.

This discovery which was first made in 1847 was received with great enthusiasm and the safety matches evolved out of it. The match stick is impregnated with paraffin and the tips are made of potassium chlorate, antimony sulphide, potassium bichromate, red lead and manganese dioxide with gum as binder. The striking surface on the box is coated with a mixture of red phosphorus and antimony sulphide, sometimes mixed with finely powdered glass to increase the friction.

What causes materials to burn, producing fire? This is a problem which has been investigated from very early times. The Greeks considered fire as one of the elements while Stahl stated that when substances burnt, phlogiston escaped. All these notions of fire have been set at rest by Priestley's discovery of oxygen and Lavoisier's explanation of combustion. When substances burn they combine with oxygen of the air. This chemical reaction called oxidation is accompanied by an evolution of heat. If the process of oxidation goes on with great speed so that the developed heat cannot radiate just as rapidly as it is evolved the heat is concentrated, and the temperature is raised so high as to produce a flame. Each substance possesses its own 'flash point' and we have such easily combustible bodies like phosphorus, ether, etc., that they have to be preserved with special care. Finely powdered metals combine vigorously with oxygen producing incandescence in many cases. Lead is one example. Surface combustion furnaces and boilers provide good illustration of fire produced from the oxidation of illuminating gases.

Abridged from 'Popular Chemistry.'

P. A. N. IYER.

THE PERFECT TEACHER.

BY MR. N. K. VENKATESWARAN, B.A.
Vanchiyoore, Trivandrum.

IF the quest is the perfect teacher many teachers might excusably think of themselves. It is not a bad thought since at the worst it is but affirming an absent virtue. If a teacher seriously begin to look upon himself as a perfect teacher he must gradually be tempted to impinge on others the origins of his conduct. In other words, he will have to show some cause why he ought not to be put down as imperfect and be accordingly despatched to Coventry. This is an excellent necessity, the mother of a considerable number of virtues, of which the teaching profession is rightly proud.

If, however, we exclude the leanings of egotism from our quest, we must soon realize that we have launched out on none too easy an undertaking. We have been told that the result of a recent search for the perfect teacher made in England revealed not the individual, but the properties of which the individual was presumably composed. The more prominent of these properties were intelligence, mental vigour, originality, sympathy, tact, personality or will power, kindness, justice or impartiality, sense of humour, idealism, enthusiasm, general culture and self-control. Evidently, it is not enough if these elements of head and heart were present in the profession, individual teachers between themselves and by varying quotas covering the whole field and putting forth the required quantity of harvest. They (intelligence, mental vigour, etc.) must, on the other hand, be found in full swing all in the same teacher, who will then be appropriately called the perfect teacher.

It may be taken for granted that we have no quarrel with the qualities themselves. Were it possible to start operations and make an individual with them the problem of teaching, which has been all along a troublesome one, will have been solved for all time. Just as, although we know that carbon, oxygen, hydrogen and nitrogen are the constituents of the human body, we cannot yet make a living man or woman in the laboratory, so, although we are given the

qualities that make the perfect teacher, we are not yet in a position to manufacture the object of our desire, for the teacher, especially the perfect teacher, is born and not made. And as he is still born and not made, he has generally speaking many imperfections which are absent or which could be excluded from the things we ourselves make by craft of hand or by cunning of machine. The English quest for the perfect teacher has, therefore, only resulted in discerning some amount of hoar-frost for the making of a snowman.

From another point of view also the synopsis of the perfect teacher stated above is interesting. It would appear from a careful perusal of this synopsis that there could be little, if any, difference between the ideal, best, or perfect, teacher and the ideal, best, or perfect, man. This gives a good explanation why when the perfect teacher is mentioned imperfect teachers have to draw generously on themselves to afford a response. Intelligence has a high market value. So too have most of the other ingredients comprised in this synopsis. Intelligence has its honours and rewards in administration, industries, politics, law, commerce, science and what not. The profession of education, of school-teaching, is about the only place where intelligence has to be exchanged for almost a song. And now the English overseers of schools have agreed that they would prefer an intelligent teacher to every otherwise qualified teacher. Intelligence, originality and things often know better than underselling themselves, and this largely explains why it is futile to be sighing for the perfect teacher in a sorry trade. The economic inducement of intelligence and associated qualities appear to be clearly away from the schools. Of course, there will always be found a few great men and women unhampered by thoughts of reward in the teaching profession, but there will be little natural flow of talent into it so long as the profession does not exert an attractive pull on talent.

We can suppose that if teachers have a fair share of commonsense, of courage, of knowledge and of sincerity, they may appropriately consider themselves very good.

so that it can learn everything about an object by doing.

The suitable mediums for manual occupations that should be taught in every school are as follows :—

- (1) Clay modelling correlated to drawing, geography, history and nature study.
- (2) Cardboard modelling correlated to arithmetic, geometry, elementary science and general knowledge.
- (3) Brush work or painting correlated to fine arts, history, geography, and advanced design-making.
- (4) Wood-work correlated to geometry, design, school gardening and cabinet-making.
- (5) Engraving correlated to design, geometry, history and block-making.
- (6) Wood-carving correlated to design, history, cabinet-making and carpentry.
- (7) Weaving correlated to geography, botany, gardening and economy.
- (8) Ratan-work correlated to botany, drawing, gardening and wood-work.
- (9) Lathe-work correlated to wood-work, geography and design.

In the same manner any sincere manual training or vocational training instructor or a specialist in a particular manual occupation can prepare a list of subjects that can be taught along with the school lessons, and certainly make both the theoretical and practical lessons very interesting and impressive.

If at least a start is given (though not prepared to teach the advanced branches of the subjects mentioned above) in all these important manual occupations in all the secondary schools of our Presidency the most difficult

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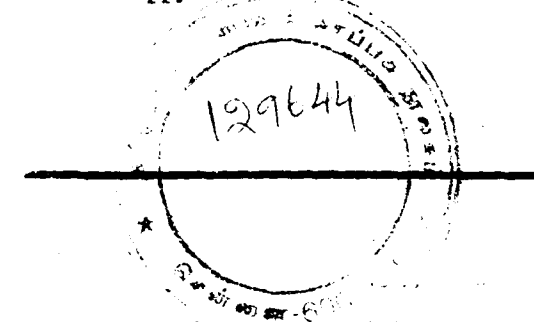
problem, namely the unemployment problem, which is developing day by day like forest fire, will to a great extent be solved. In conclusion the fathers of the future generation must try to move the Local bodies such as the Presidents of Taluk Boards and District Boards and the Chairmen of Municipalities and the Correspondents of endowment schools and the Government to cooperate with each other in preparing different walks of life for the present day youths to pursue. Then under the instructions from the concerned authorities the schools naturally become the centres where vocational education is imparted which certainly fosters a taste for mechanical pursuits and cultivates the stimulus "to do" something and on this foundation the industrial development of the country and the correct choice of a walk of life of the rising generation stand. It is only by industrial development India can hope to have a healthy atmosphere and lift her head along with other advanced countries. Who is to work hard for this? It is the well trained active teachers who teach the practical side of education and the taught who utilise the opportunities given to them in all seriousness.

To sum up. The times demand that vocational classes should be instituted throughout the Presidency (not to be satisfied with the here-and-there centres) and the authorities concerned will of course be prepared to do their best if the people are also prepared to shoulder ungrudgingly the financial burden in their own interests and in the interest of their children.

1. "The capital of a country does not consist in cash or paper, but in the brain and bodies of the people who inhabit it."

2. "What is it that we desire, in a broad way, for our people? That they should be citizens, reverent and dutiful, sound in mind and body, skilled in the practice of their several avocations and capable of turning their leisure to a rational use."

3. The training of hand, eye, ear and voice supplement the older and central discipline of literature, opening new windows into the world and quickening the senses into new forms of happy exercise."—A. L. FISHER.



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THE HEADMASTER.

By MR. SYED ZAHUR ALI, B. A., B. T.,

Divisional Inspector of Schools, Hyderabad, Deccan.

1. A COMMON FALLACY REFUTED.

There is an erroneous idea or fallacy current among the non-educational circles, that the moment an assistant teacher is elevated to the proud position of a headmaster, his days of drudgery are over, and that he may spend the rest of his service in well earned rest and take an informal holiday, having precious little to do, save walking round the classes and supervising whether the staff is working or not; snugly sitting in the rotating office chair and signing the office papers; interviewing boys, teachers, and parents or guardians of boys; and lastly, commanding the menial staff of the school. Nothing can be further from the truth and facts. A drone of a headmaster was never a success, was never popular and never won the public esteem; and if, as an assistant he played the role of a working bee and improved each shining hour, as a headmaster, he must toil more and improve each shining *minute*, gathering the honey of new methods of teaching and organization from the school flowers, that is children who are committed to his care. In virtue of his being the highest paid man in the school, he should be the most hard working man in it, whereas, as a class teacher, he had under him about 30 boys, as the teacher of teachers he has, under his charge, ten times or twenty times the number. And do not increased numbers bring on in-

creased responsibilities? Moreover, he has to deal with a number of teachers with different temperaments. The headmaster, like the versatile actor has to play many roles—those of the teacher, organiser and disciplinarian. He has to handle his own subject. He has to keep himself abreast of the times and be conversant with the latest educational theories and methods. He can never cry halt, for, as with human nature, there is always flux and change. The sky of educational methods is always changing—more often for the better and less often for the worse. The headmaster cannot be a fogey and a fogey should not be a headmaster. The headmaster must be always learning, experimenting, and following inductive and deductive methods. The conscientious headmaster has enough to do and mind and can even create work to raise the tone and efficiency of the school, *e.g.*, in his class-to-class visits, instead of making them a sham and a show, he may closely watch the lessons of teachers and give points to inexperienced or untrained teachers and so guide and direct them that they begin to take genuine interest in their work and rather welcome criticism than resent it. Here is an unexplored field for the headmaster. Since the headmaster has to maintain the discipline of the school, he is more or less occupied in issuing orders. He has to look to a hundred and one

details of administration. Is not all this work? So the charge of idleness or lethargy cannot be laid at the door of the headmaster who is true to his salt and his profession.

2. IS A HEADMASTER "BORN" OR "MADE."

My answer to this question is that he is both. Inasmuch as he is endowed with certain innate gifts and characteristics, he is "born," in view of the fact he gets trained and profits by his own experience and that of others he is "made." He must have sterling virtues as love for duty, strength and purity of character, tact, resourcefulness, patience, and impartiality. He must possess an imposing personality which is god-given and a very valuable asset to a headmaster. If he is gifted with persuasive eloquence, he may sway the staff and students to his side. He must be a picture of health, so that he may be active and energetic and full of go and vitality. Nobody likes a pale, sickly or seedy and warty headmaster, crawling with a snail's pace. The headmaster must be a bundle of nerves, more active than the most active member of the staff. By exercise and clean life he must maintain and preserve his health. To these god-given gifts, may be supplemented human experience—his own as well as that of others—which includes chiselling and polishing, given in training colleges. Before entering the portals of a training college, I had my doubts and misgivings regarding the efficacy of the training imparted in training colleges. I had an idea that a teacher of ten years' standing was as good as a trained

teacher. My theory was exploded, the moment I joined a training college. There was first the arresting environment of the college. The actual "doing" of lessons under the nose of the supervising lecturer and the ordeal of being exposed to the fire of a criticism lesson are sensations which linger in one's memory for life. Anyhow every trained graduate cannot but admit, in his heart of hearts, that he is more methodical and more exact and has a broader educational outlook after he leaves the precincts of the training college than when he entered them. To my mind, the factor of being "born" is akin to that of heredity and the factor of being "made" is akin to that of environment. Just as heredity and environment determine a man's life, in the teacher's career also, both these count and are inseparable. There are cases in which the "born" element may be much more strikingly developed and others, in which the "made" element blossoms in all its fragrance. It is quite possible that, by dint of steady application and dogged will a "made" headmaster may excel a "born" headmaster. Yet I stick to my view that the "born-cum-made" headmaster is the best mosaic that will appeal to the aesthetic taste of the modern world.

3. THE QUALITIES OF THE HEADMASTER.

It is often asked what should be the qualities or attributes of a headmaster. The headmaster should be an embodiment of the perfect man. As there are artists' models, there are headmasters' models also. To give a pen picture of the head-

master's model is not impossible but whether it exists in actual flesh and blood is a moot question. It is as rare as the Dodo. However we shall take a survey of what the headmaster should be like. First and foremost, he must have a striking personality. A headmaster without personality is like the play of Hamlet without the Prince of Denmark or, to use an Indian parallel, a marriage procession without the bridegroom. Like the ideal bridegroom, he may be an arresting personality, good to look at. He must have no defects or deformities. A one-eyed or squint-eyed headmaster, a short-sighted headmaster, a partially deaf headmaster, a lame or cripple headmaster, a stammering headmaster, can have no personality, and, if appointed, create awkward situations, for the impish nature of boys cannot long lie dormant, and occasionally gives vent to mimicry. A naturally defective headmaster cannot brook to see himself rehearsed near the out-houses, in the dormitories, or on the play grounds. He must not be very short or undersized. A pigmy 4' 5" headmaster never creates a favourable impression among boys. He is submerged in the boy-crowd and remains unnoticed. He does not come into the lime-light. A headmaster should be a towering personality. He must, Mount Everestlike, tower high over the Goodwin Austins, Kinchin-changas, Dhawalagiris and Nangparbats of the High Section staff, longitudinally as well as intellectually, not to speak of the out-Himalyan hillocks of the Preparatory Section. Personality is a wide, comprehensive term, baffling definition, and includes many traits of man, from charming manners to strength of charac-

ter. Next to personality, the headmaster should have a high sense of duty ingrained in him. In fact he should be an *avatar* of duty or duty personified, and what is more, should, by example, be able to breathe this spirit into the school. The most successful headmaster is he who can send "duty" waves or messages to his assistants, without the aid of a transmitter or receiver. The atmosphere of the school should be so much surcharged with duty waves that the most lethargic new arrival in the staff would be unwittingly galvanised into action. The headmaster should not countenance inaction in and around the school. Another qualification which the headmaster should possess is that he must be an experienced man, a superior man of learning, far above his subordinates, comparatively more learned than the most learned in the staff, a man of encyclopaedic knowledge, a walking dictionary and a living reference book. The headmaster must have tact, originality, resourcefulness and initiative to solve knotty school problems which face him off and on. He must have great organising powers. He must be a stern disciplinarian and mete out even-handed justice to assistants as well as boys. He must be impartial. He must be a man of strong will and determination, not fickle-minded, not oscillating between "to-do" and "not-to-do." He must have sound judgment and when once a line of action has been taken, he must not swerve from it. Unless the headmaster is a man of strong character, the teachers as well as the taught will make him dance, and

then the school discipline will be at a discount. A waxlike headmaster melting at the fervent but improper appeals of boys or dancing to the tune of one or more assistants is courting trouble, and will have enough of it, if he pursues the same wavering policy. The headmaster must be social as well. He must move in society and must be easily accessible to boys, teachers and guardians of boys alike. He must not be very very familiar with the boys nor very chummy with the staff, for, as you know, familiarity breeds contempt. Let the headmaster love the boys by all means, but he must, at the same time, see that they treat him with respect and a dash of awe, because for the proper maintenance of discipline some amount of dread is necessary. The headmaster must also be magnanimous and noble-minded. He must have a broad outlook. He must have a little bit of introspection and feel for the difficulties of others. He must be sympathetic and advocate the cause of the assistant masters if necessary and redress their grievances, if they are genuine. He must be cool, collected and peace-loving and not create scenes himself nor allow scenes to be created. By moral suasion the most refractory teacher may, in most cases, be overcome and the most wayward and unbridled boy is brought under control. The Headmaster should be a person in whom the sense of morality is highly developed. By action he must give tangible proof of his being not only the master of masters, but master of morality as well. His

morality must be catching. He must give a moral tone to the staff. His moral tone should pervade the students like a spring, it must percolate through the layer of teachers and then on to the vast mass of students so that every boy receives the moral baptism unseen to the naked eye but visible to the eye of the heart. The headmaster must be a child psychologist and get to know the likes and dislikes, leanings and proclivities of boys. These are of the highest importance for not only is instruction made more psychological but they are of the utmost value in maintaining discipline. By way of recapitulation permit me to quote Mr. R. A. Lamb who says: "For the making of the head of the school, whether master or mistress, there are required many qualities; knowledge, the art of imparting knowledge, experience, tact, the art of managing children and so on. But the union of all these qualities though it may produce a good master or mistress does not suffice to make one of the very first class. To make the perfect HEAD of the school, there is needed in addition to all these, a quality which is undefinable, and which resides in the personality of the individual. It is not possible to analyse this quality any more than it is possible by dissecting a man's brain to find wherein resides the soul or the spirit of life. But that it exists is beyond question.

4. DUTIES OF THE HEADMASTER.

The duties of the headmaster are manifold and arduous. To enumerate some, he has to frame the time-table, to set the

machinery of the school going. Since in big schools one or more teachers are on casual leave, a provisional time-table has become a regular institution in big schools. A new headmaster frets and fumes when many teachers make it inconvenient for the headmaster to be absent, but an old one coolly sits and makes the best of the situation and keeps the boys somehow engaged. Sometimes he is driven dotty when at the fig end of the year several teachers conspire to exhaust their casual leave, taxing the patience of the headmaster to the breaking point, but a tactful headmaster can overcome any situation. Another duty devolving on the headmaster is the maintenance of discipline. This very often entails the issuing of notices in a book entitled the Notice Book in which other announcements, *e.g.*, of holidays, orders, suggestions to teachers, etc., appear. A glance at the notice book gives an outsider a correct idea of how the school is running or is being run. It is an index to the movements and activities of the school. Glance over a dozen notices at random, and you can feel the pulse of the school. The official code requires that we should maintain the punishment book, but in a well-disciplined school, its pages are more or less blank. Supervision is another important duty of the headmaster. It includes class-to-class visitation, watching the lessons, giving hints and suggestions to teachers and entering notes in the Log Book—every headmaster should maintain this, to record daily doings of interest, the results of educational experiments, some unusual events

connected with the school, etc. Supervision must not be done in a fixed period or periods but the time should be as varied as possible so that the teacher is made to realize that the headmaster is ubiquitous and can turn up any time; but this can be accomplished by his making a rapid flight to any class where he suspects slackness and catching a teacher napping, even were he to handle a subject by keeping the class engaged by giving some written work. If the headmaster is on the alert, the teacher cannot afford to be slack. The headmaster must be a strict observer of punctuality. He must come early and go late. A headmaster turning up late has no moral justification to question or call for explanation from an unpunctual teacher. Much less is he justified in punishing a student who comes late. In the matter of punctuality the lead should be taken by the headmaster, and the staff and students will follow in his wake. The headmaster has another important duty to do. He has to manage the office work. He must check the fee account and remit the amount to the treasury, and maintain ledgers and issue progress reports and T. C's. In regard to office work the headmaster cannot afford to be slack because reminders will be coming from the head office to wake him from his lethargy. Some headmasters are very fond of office work and think that this alone is their legitimate work. Such are gravely mistaken. Office work is only a sidework. The maintenance of discipline, organization and supervision are more important duties. Teaching, which was once an

important duty of the headmaster is now being relegated to the background. Time was when the headmaster who used to annex to himself the maximum number of periods was considered to be the most successful headmaster. The angle of vision has changed. This is now considered false economy. A High School headmaster who teaches more than a period a day is neglecting other important work. Opinion is gaining ground that the headmaster should be totally exempted from teaching work, so that he may solely devote himself to the management, discipline, tone and equipment of the school. The headmaster is also responsible for the cleanliness and sanitation of the school. Cleanliness must be his watchword. He must see that the class-rooms, varandahs and fields are swept, the furniture dusted after sweeping, and waste paper and sweepings removed and transferred to the nearest dust-bin. Menial servants are apt to be lazy if supervision is slack. Any dereliction of duty must be dealt with forthwith otherwise dirt will accumulate. The headmaster should now and then peep into the latrines to see whether the scavenger is attending to his duty and also whether demoralised boys are having a free hand at obscene sketches. The headmaster has to control peons and other menial staff attached to the school and supervise that everybody does his work regularly. The conducting of examinations, the effecting of promotions, checking whether the curriculum is being finished in time or not, looking to the school building, furniture,

apparatus and science laboratory, the supervision of the play grounds, the checking of copy books and exercise books, the granting of interviews to boys and guardians and others, the maintenance of the School Library, Boys' Reading Room, the School Debating Society, Scout Room, Prayer Room are other duties devolving on the headmaster. He must hold weekly staff meetings to devise ways and means for the improvement of teaching methods, organization and discipline, solve some knotty problems that crop up during class management. He must organise a Teachers' Association in his school and hold meetings regularly at least once a month. He must also have a Teachers' Reading Room to which besides other dailies and periodicals educational journals must be subscribed for. Lastly, it is the duty of the headmaster to build up a tradition in the school in which he lives, moves, and has his being. I wonder whether I exhausted all the duties with which the headmaster is saddled.

5. THE HEADMASTER'S DAILY ROUTINE.

It would not be out of place were I to append the daily routine of a headmaster for the guidance of junior headmasters and for the information of the audience.

Morning Session:—Be in the school half an hour before time. Walk round the school and see whether it is clean and tidy, sanitary arrangements are all right. This early going acts as a check on peons, sweepers, watermen, etc., who will not otherwise turn up in time.

Interview a visitor or two. First bell 9-45. Witness assembly parade in the compound—prayer, song and singing of the Hyderabad National Anthem 10 minutes. Marking of attendance by the teachers 5 minutes. Boys go in Indian file to the classes. Lessons should begin at 10 A.M. Stand at the gate for some 10 minutes. Fly to each room to see whether the teachers have begun work. Go to office and dispose of correspondence. See visitors. Make class-to-class visit remaining for a longer or shorter time as circumstances demand. Deal with cases of school discipline. Take note of any important matter in the Log Book for discussing in the staff weekly conference in which problems of educational interest are placed for solution. Allot last period in the first session for teaching. *Recess.* Take breakfast or midday meal or lunch whatever you may call it. Say prayers with the congregation if you are Sunni Mussalman (if a non-Sunni Mussalman or Hindu do office work) make arrangements for games.

Afternoon Session. Call assembly parade for marking attendance only 10 minutes before time. No song or no anthem. Disperse. Begin work at 1-30 or 2 P.M. as the case may be. Watch late-comers for 5 or 10 minutes at the gate. Fly again to see whether school-work is in full swing. Return to office and see visitors if there are any. Do office work and check exercise books and copy books corrected by the teachers. This is sadly neglected by headmasters. If the teacher gets to know that this work is not

supervised, he will do it in a slipshod manner, sometimes merely initialling and not putting in dates either, not to speak of correction. Repeat class-to-class visit as in the morning session but reverse the order. If you have not walked round the premises in the morning do it now. Inspect games kit, interview game prefects or monitors (or this may be delegated to the Games Secretary.) Watch drill and gymnastics occasionally. Return to office. After 4 P.M. go to the play-fields. Watch or play till 5 P.M. and after boys disperse leave the school.

N.B.:—The time for class-to-class visit must every now and then be changed as circumstances require and permit. If the headmaster suspects that the discipline of a particular class is bad he may pay additional flying visits and make the teachers feel that he is ubiquitous.

6. SOME DON'T'S FOR THE HEADMASTERS.

Since I have done with most of my Do's under the subheadings of "Qualities" and "Duties", I shall limit myself to some half dozen Don't's here. Although the negative way of expression is not so forceful as the direct command, yet in some cases Don't's are as dynamic as Do's:—

1. Don't correct or criticise the teacher in the class room before the pupils. This is undesirable from two stand-points. You wound the susceptibilities of the teacher. You loosen a ring in the disciplinary chain. The class teacher

is a link between the headmaster and the boys, and if you take to task a sensitive teacher in the presence of the boys he may begin to discuss with you and try to prove his point and assuming hypothetically that you are in the wrong and the teacher in the right what an awkward situation is created for the headmaster who is supposed to be the incarnation of *Veritas* or Goddess of Learning and when a big fissure or cleft is made in the middle of it, if, as it sometimes happens, the teacher is really in the right and the headmaster in the wrong. Now-a-days assistants are, in some cases, as learned as the headmaster and fortunately learning is not the special preserve or jagir of anybody. So headmasters, especially ill-posted Headmasters beware!

2. Don't set up impossible ideals or pass orders which are incapable of human achievement. Some headmasters, especially green ones, in their enthusiasm for work want to achieve the impossible. Above all, the headmaster should be practical and commonsense and when he has to make introspection, see whether the proposed order that is going to be passed will remain a dead letter or can be given effect to. If there is a tangle, if agitation is feared, or if there is a knotty problem to be solved, why don't you decide it in your weekly staff meeting? A work-enhancing and leisure-depriving proposal of the headmaster not submitted through the weekly staff meeting is foredoomed to failure. But let it obtain

the assent of the majority of the staff, it is bound to succeed. So headmaster, cooperate with the staff.

3. Don't show preferential treatment to any member of your staff nor differentiate between the boys of rich and poor parents. If you do, trouble is brewing. Be uniformly strict or be uniformly kind. Then there is no trouble ahead. If there is disparity or inequality the school becomes a hot-bed of cliques and intrigues. Heaven save us from such a weakling headmaster!

4. Don't be a slacker and delegate all your powers to one of your assistants and begin signing every draft put up by him with the result that he runs the whole show and you become a puppet in his hands. He enjoys a free ride over you. He feels supremely happy and you seem completely miserable. The whole staff is against such a tyrant and he wages a war against the teachers. When such an impasse occurs, the weaker (Mr. headmaster) goes to the wall.

5. Don't keep notoriously bad boys in your school. First make an honest attempt to correct the morals of bad boys. The school, in addition to its being a seminary, must also function as a reformatory for bad boys. Until they commit some criminal offence, where are they to go before they are put into the Police reformatory? So schools must act as a house of correction. If the class teacher, the headmaster and the parent form a triple alliance and seriously take into their head to exorcise the devil out of the boy, in 99 cases out

of 100 the evil-spirit will go. If even after this, he is incorrigible and persists in his evil ways, let him go to the—. Strike his name off the rolls but do not grant him a transfer certificate. If he is retained in the school, he will contaminate the whole flock.

6. Don't disobey the orders of your superior officer. Let every headmaster study his tastes, idiosyncracies, dislikes, etc., and not incur his displeasure. In your correspondence, be very polite. If you differ from your officer on any matter, place your view-point before him, in as polite a language as possible and if you have failed to convince him, implicitly obey his orders and let the matter stand there. What every officer wants is work and obedience and of these two, the latter is the more important! Otherwise serious consequences follow. Never invite trouble. You have enough of it unasked.

7. THE BRIGHT AND DARK SIDES OF THE PICTURE.

The headmaster, if he is honestly and conscientiously discharging his duty, can be supremely happy for he has the peculiar satisfaction of finding that his efforts are bearing fruit year after year. Like the gardener, that he is, he sees the seeds germinating and plants growing vigorously. He has to watch and manure them and protect them from blight and high winds. What more satisfaction and unalloyed pleasure can a headmaster get when he sees a pupil of his thriving and prospering and ultimately reaching the highest position in the State? He can legitimately share the pleasure along with the parent of the young man, and mind, with not a tinge of jealousy. The father is proud of the boy and the headmaster is equally proud of him. Can a millionaire have this unalloyed pleasure?

Certainly not! The headmaster can be the happiest man in the world and

can offer a challenge to the Miller of the Dee with his chalky garment instead of the mealy cap, provided he minds his mill, i.e., the school, and keeps it going. There are supreme moments of pleasure, when at the public examination the school scores brilliant results which are, say, 70 to 80 per cent. In some years, when his boy tops the list in the H. S. L. C. or Osmania Matric Examinations, his joy knows no bounds. It is a red letter day in the annals of the school. If the staff co-operate with him in right earnest and work off-time and in holidays even when plague or other epidemic is raging, their results are crowned with success. Sometimes some schools establish a record for brilliant results and the headmaster strains every nerve to maintain this record. When his boys attain distinction in other fields, e.g., win a shield in a football or hockey tournament or competitions or bag prizes, get medals in games, and elocution contests, the headmaster feels very happy. He is proud of his school and of the boys, who achieved success, and the boys, in their turn, are proud of their headmaster. This is the bright side of the picture.

The headmaster's life is however not allowed to be an unalloyed pleasure or a round of gaieties. There is a dark side to the picture. Every silver lining has a cloud near it. May be that the results in the Public Examinations are disappointing or the usual level of excellence has not been reached. May be that the school has not fared well in the annual inspection of the Divisional Inspector. May be that when a distinguished visitor came to the school, the discipline was not what it ought to have been. May be, that in the sudden surprise visits of the Director of Public Instruction many loopholes have been found. Some of these life's little worries disturb the even tenor of the life of the headmaster. Otherwise he can be, and is always, happy.

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PLACES OF EDUCATIONAL INTEREST.

III. CHIDAMBARAM. THE SEAT OF LORD NATARAJA

BY MR. L. N. GUBIL SUNDERASAN.

Teppakulam, Trichy.

CHIDAMBARAM is a city of great antiquity and holiness and is situated on the main line 154 miles south of Madras. Historically and religiously Chidambaram is famous for the temple of Sri Nataraja. All true Hindus of South India invoke the blessings of Sri Nataraja in their daily prayers. The temple is of very great antiquity. Its history can be dated back, so far as can be gathered from historical and archæological data to the beginning of the Christian Era. But the traditionary account of the origin of the temple carries its date still further back. According to tradition Lord Sri Nataraja pleased with the austerities of the sages Patanjali and Vyagrapadha, who underwent penance at this place, vouchsafed unto them his Divine presence with 3000 Dikshitaras who came to be called as "Thillai Moovayaravar". From that time Lord Nataraja settled on the spot and the temple arose and the Thillai Moovayaravar worshipped him. "This account shows that the Dikshitaras have been a part and parcel of the institution from its inception and this fact has been confirmed by historical evidence as found in inscriptions and ancient Tamil literature."

In the 8th century every South Indian dynasty which played any considerable part in the history of the times supported the Saiva movement. The period of the Chola Empire beginning in the middle of the tenth century with Parantaka I, is celebrated by the oldest part of the Chidambaram temple. Parantaka like his predecessors was a patron of the Saiva

cult and signalised his victories by replating with gold the great hall which is called the Kanaka Sabha.

The Sri Nataraja temple at Chidambaram is one of the five great Saiva temples of Southern India* dedicated to the five lingams or five cosmic elements—earth, water, fire, air and ether. Chidambaram is consecrated to the last of the five, Akasa, the cosmic ether, which is appropriately symbolised in the Holy of Holies by an empty shrine shrouded in utter darkness. Siva is here immersed as Nataraja, the Lord of the Dance, a symbol of the rhythmic vibration of ether by which Iswara sets the universe in motion and impels it to destruction according to His will.

His dance is evolution, continuance and involution. The concept of Nataraja is the synthesis of a long evolution. A sympathetic but discerning student of Indian art interprets the Dance of Nataraja in the following words:—

"In the night of Brahma, Nature is inert and cannot dance till Siva wills it; He rises from His stillness and dancing, sends through matter pulsating waves of awakening sound proceeding from the drum; then Nature also dances appearing about Him as a glory (Tiruvasi). Then in the fulness of time still dancing, He destroys

* The other four temples are those at Kanchi which is dedicated to the earth Lingam, the Jambukesvara temple to the water Lingam, Thiruvannamalai to fire Lingam; and Kalahasti to the air Lingam.

all names and forms of fire and there is now rest. Thus time and timeless are reconciled by the conception of phase alternations extending over vast areas of space and great tracts of time. The orderly dance of the spheres, the perpetual evolution and involution are conceptions that have at all times recurred to men's minds but to represent them in the visible form of Nataraja's dance is a unique and magnificent achievement of the Hindus."

The other important and interesting pieces of Indian art here, are the Kanaka Sabha or the Golden Hall, the Nritta Sabha or the Hall of Dance, and the Raja Sabha, the Hall of the thousand pillars. All these are an architectural design and style rarely met with anywhere in India.

Chidambaram like Madura is a city of festivals. There are the monthly or Panchaparva festivals and the two Brahmotsavams in the year—the Arudra Darsanam festival in the month of December and the Ani Thirumanjanam which occurs usually in June or July of every year. These last for ten days each and attract over thirty to forty thousand pilgrims.

As an important educational centre Chidambaram has assumed vast importance during the past ten years. The recent fame of Chidambaram as an educational centre is mainly and solely due to the munificence of the great philanthropist and veteran educationist in South India, Raja Sir Annamalai Chettiar. The Sri Minakshi College, Chidambaram, which has developed into the present unitary and residential University known as Annamalai University at Annamalainagar, was started under the able and efficient Principalship of Professor K. A. Nilakanta Sastri, M. A., (the present University Professor of Indian History and Archaeology, Madras University). The College developed and assumed vast proportions and its growth was something phenomenal. The College was converted into the Annamalai University early in 1923. Besides the arts colleges there are also the Colleges of Music, Sanskrit, Tamil, Oriental and Training, which form part of the Annamalai University. This latest University is the first of its type in South India and it is hoped it would show the right path for the other Universities to follow.

Madras University.

B. A. Degree Examination, 1933.

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SOME CULTURAL ASPECTS OF MUSIC.

BY MR. DAVOL SANDERS,

Professor of Violin, University of Southern California.

WHATEVER qualities may be expected in the person of culture, the appreciation of beauty may well be considered amongst the first. It is by reason of this that we have so generally come to measure a man's refinement by the degree of his concern with one or other of the arts. Beauty, the dominant element of all arts, of architecture, of painting, of literature, music, and sculpture, while generally accessible to everyone, is sensed not at all, or but dimly, by many. Others are mildly responsive, while still others, drinking in with unquenchable thirst the myriad beauties of one or many of the arts, find in them the chief reward of existence. All arts contribute to the culture of the individual, and I am inclined to think that, perhaps after certain forms of literature, the beauties of music make a more general appeal than those of any other.

In examining the aesthetic phases of music it becomes evident at once that, as with all other arts, its devotees participate unequally in its cultural benefits. Your neighbour's possession of a piano or radio, though he busy himself with it the livelong day, by no means justifies the assumption of his refinement. Neither are the insignia of culture always in evidence in those who nominally study music, and may perchance have done so for long. Shall we then seek the maximum of enlightenment amongst the professionals? It is easy to imagine that the man whose lifetime occupation demands unceasing attention to the aesthetic problems of music must far outrank his fellows in delicacy and fineness of feeling, but

though many of the higher type of musicians may reach this point, others there are whose culture is of such obviously low grade as to lead to the opposite conclusion. In short, mere musical activity, on the part of either layman or professional, can never be taken as a cultural guarantee.

It may be safely said that only those experience the full refining influence of music whose understanding and enjoyment of it penetrate to its higher levels, and strange to say, many of these are individuals who have, themselves, never sung nor played a tone. We should not confuse the cook with the gourmet. One may enjoy the cake without being able to bake it, and many a concert-goer has become more cultured than some of the artists who are, so to speak, educating him. Given an innate susceptibility to tonal beauty, what does the music-lover need further to enable him to derive from the art the utmost spiritual benefit which it can offer? This is not difficult to answer, for there are but two things, *good taste* and *enthusiasm*.

During the last half-century increasing attention on the part of educational and other authorities has been paid to the development of an improved public taste, particularly in the direction of a more correct and complete appreciation of music by our school children. This long step in the right direction has been generally attended by marked success, yet leaves much unaccomplished. The youth of to-day possesses willy-nilly a fund of musical information, thrust upon him in the course of his school activities, which far exceeds that of

former generations. Along certain lines his attainments are quite remarkable. He recognizes by name a Chopin Mazurka, a Beethoven Sonata, Peer Gynt, and the Nutcracker Suite, readily senses the difference between an aria and a rondo, has some knowledge of symphonic structure and, unlike his grandfather, no longer confuses Johann with Richard Strauss. What all this has done for his musical taste, as distinguished from mere orientation, remains questionable. Perhaps in time better means may be found of penetrating to the more emotional regions of his consciousness, working still more effectively upon his likes and dislikes, and perhaps capturing a larger proportion of that native enthusiasm which at present seems to escape in the direction of gutter-music. This will depend very largely upon the taste, erudition, and teaching ability of his mentors, together with increased opportunity of hearing not merely music, with which he is already overwhelmed, but music of higher quality.

Of far greater importance than school experience, in the attainment of good musical taste, is the family background of the individual, together with the musical quality of his immediate early home environment. If these be favourable he enters the race, not at the starting line, but at the half-mile post. His battle is even more than half won. Rejoice, if, when you were a little child, your father led you to the quartette concert instead of to the hockey game, or you went to sleep to the sound of Schumann songs below stairs, or if on your mother's piano you found Bach chorales instead of "Daisy Bell." If this did not happen to be your lot, let it at least explain to you much that you may have wonderingly observed in the world of culture.

Musical susceptibility, together with native, or acquired good taste, often gives rise spontaneously to that other and final element needful to the person seeking the ultimate musical culture, namely, enthusiasm. This is, however, an elusive and variable quality, dependent primarily upon temperament, but often affected by transitory conditions, physical well-being, mood, surroundings, even economic factors. It needs but a moment's reflection to see in it the driving power behind the man who travels fifty or a hundred miles to hear a concert, the student who practises day and night, the composer whose meals are forgotten in the throes of his self-realization.

We in America are by no means lacking in enthusiasm, but, considering our population in the mass, we might wish that more of it might be turned musicward. We seem, some of us, to be still living down the painful musical traditions of early colonial days. A surviving trace of our old Anglo-Saxon severity and reserve causes some of us still to look askance at the man whose emotion visibly arises over a poem, a painting, or a symphony. We appear to have perfect understanding of the howling mob of eighty thousand at the football game, yet fail to comprehend the transports of the Italian at his opera. Nevertheless, without this very enthusiasm, without the driving power of this intensified interest, it is impossible to feel the full effect of music in whatever form. It is this kind of enthusiasm, this never satisfied admiration of the artistic ideal, and burning hunger for it, which motivates the ardent concert-goer, which prompts the layman constantly to broaden his familiarity with musical literature, impels the interpretant to perpetual study and self-improvement, and drives the composer to exceed himself. Regardless of the distance they may have traversed the pathway, these are the people of true culture, and such may be found, in growing numbers, in every stratum of American life. [From the *Cultural World*].

THE TANJORE DISTRICT TEACHERS' GUILD.

The following resolutions were passed at the meeting of the Guild held at Mannargudi recently :—

1. This meeting of the Guild places on record its deep sense of sorrow at the demise of Mr. P. T. Srinivasa Ayyengar Ayl., M.A., L.T. a distinguished scholar and veteran educationist.

2. The Guild recommends that the latest proceedings of the D. P. I. prohibiting non-graduate teachers from handling high school forms, be not made applicable to such teachers as have been doing work in the above forms satisfactorily for many years.

3. The Guild requests the S. S. L. C. Board to sanction a uniform travelling and daily allowance to all assistant examiners irrespective of their pay.

4. The Guild strongly protests against (1) any reduction of salaries of teachers either contemplated or carried out, the same being already low and (2) the sending away of teachers as a measure of retrenchment and requests the Government to order an enquiry to be made in all cases of reduction of salaries or of staff.

5. The Guild recommends that the special teaching grant may not be added to the general budget allotment under teaching grant and may be continued to be given separately as before, since no saving of expenditure is contemplated thereby.

6. The Guild regrets that considerable delay is caused by the postal department and in the District Educational Officer's office in the purchase and re-conversion of postal cash certificates, in respect of the teachers' provident fund, which entails serious loss to the subscribers and prays that steps may be taken to avoid such delay.

7. The Guild is of opinion that medical inspection as at present conducted, is useless and that it should be followed up by treatment of ailing children, at the expense of the Government.

8. The Guild regrets to note the S. S. L. C. Board is still dominated by University representatives and urges that there should be a larger representation of teachers of High Schools.

9. The Guild resolves that opinions be invited from Teachers' Associations and managements of Secondary Schools of the District, as to the desirability of referring disputes between teachers and managements, to a sub-committee of the District Secondary Education Board.

10. The Guild reiterates that Secondary Grade trained teachers who have since taken their degree may be permitted to appear for the L. T. degree examination, without a further course of training.

11. The Guild reiterates that the 'O' group may be abolished under the S. S. L. C. scheme.

THE RAMNAD DISTRICT TEACHERS' GUILD, FIRST CONFERENCE, 1931-32.

The First Conference of the Ramnad District Teachers' Guild for the year 1931-32 was held on Saturday, the 5th of September, 1931, at Sattur, in H. N. E. High School hall. The President of the Guild, Mr. N. S. Venkatarama Ayyar, presided, and 34 delegates attended the Conference.

The President of the H. N. E. High School Teachers' Association welcomed the delegates. After a few preliminary remarks from the President, a lecture was delivered by Mr. V. S. G. Manikka Nadar, B.A., B.L., on "Education and its Connotation."

The following General Resolutions were unanimously passed :—

RESOLUTIONS.

1. This Guild expresses its sense of deep sorrow at the recent and untimely demise of

the Guild's first President, Mr. C. Sundararaja Ayyangar of Srivilliputtur.

2. This Guild whole-heartedly endorses the well-considered opinion of the Kurnool District Teachers' Guild on the revised S. S. L. C. scheme :—

(a) The curriculum is overcrowded with too many subjects to give enough time to each subject so that it may be sufficiently taught ;

(b) That it is difficult to frame the school time-table, making provision for all examination subjects, besides allotting sufficient time for Manual Training, Physical Training and Moral Instruction within the school time ;

(c) That therefore there is hardly time for extra curricular activities such as Scouting, Games, Sports, Excursions and Debating Societies ;

(d) That the teachers and the pupils are overworked under the new scheme;

(e) And that therefore it is desirable that the S. S. L. O. Board should fix simple and suitable text-books which contain only the fundamentals or the essentials of each subject.

3. This Guild reiterates its opinion that the Teacher-Manager Agreements as at present conceived, are capable of rendering little good, (i) unless provision is made for an Arbitration Board for each District, with power to adjudge differences arising between Teachers and Managers; (ii) and unless uniform leave rules and service rules are formulated and incorporated; and earnestly prays that the Government will be pleased to take early steps to rectify the defects referred to.

4. This Guild earnestly requests the Managers of schools to sanction gratuities for retiring teachers of approved service, seeing that the Teachers' Provident Fund Scheme makes but a limited provision for retirement. The gratuity may be a month's salary for each year of service in the school.

5. This Guild requests the Government of India and the Railway Board to make provision for half-fare concessions to bodies of teachers travelling by rail for educational purposes.

6. The Guild requests that the Government may be pleased to make special and two-third grants towards Manual Training accommodation and equipment, before it is made compulsory.

7. This Guild requests the S. I. T. U. to expedite the organisation in this province of a Registry of Teachers.

8. This Guild thanks the S. S. L. O. Board for reducing the portions in Geography and Elementary Science under the A Group in connection with the 1932 Public Examinations; and prays for similar reduction in Indian as well as in English History.

9. This Guild is of opinion that, over and above the Public Examination conducted by the University or the Government, there is little or no need for a special selective examination by the Public Services Commission; and that such an examination subjects the examinees to unduly heavy expenditure in the shape of application and medical examination fees, as well as travelling expenses to distant centres.

10. In view of the increased curricular and extra-curricular work now entailed on Secondary Schools, the Guild is of opinion that more liberal grants than hitherto are due from Government to Secondary Schools even in these days of financial stringency; but that if retrenchment under education is deemed necessary by Government, there is ample scope for such retrenchment (1) in the Administrative Section, (2) in the Inspectorate, (3) in the Training Section, as well as (4) in Colleges.

11. The Guild requests all members in the teaching profession in this District to organise in each centre the Education Week in such manner as may be advised by the S. I. T. U. and enthusiastically take part in it.

After a short recess for lunch, the Guild reassembled to transact the following business:— It was resolved

(a) That the S. I. T. U. be requested to reduce the affiliation fees from Rs. 2 to Rs. 1 subject to a minimum of Rs. 15 per Guild.

(b) That the implementing of the Resolution on "Simple Dress" be adjourned pending information on certain particulars from schools.

(c) That the following be the Office-Bearers of the Guild for the year 1931-32:—

(1) *President*—Mr. N. Chakravarti Ayyangar, B.A., L.T., Headmaster, H. N. E. High School, Sattur.

(2) *Secretaries*—Mr. T. S. Venugopala Ayyar, B.A., L.T., Sattur, and Mr. S. Dandapani Ayyar, B.A., L.T., Sattur.

(d) That the Guild heartily thanks the President and Secretaries of the past two years for their very valuable services to the Guild.

Business over, Mr. S. Dandapani Ayyar, B.A., L.T., (Sattur) was kind enough to give two recitals from Shakespeare—the Rialto scene in the 'Merchant of Venice' and the Launce and Dog scene from the 'Two Gentlemen of Verona'—both of which were highly appreciated. The meeting then terminated with a vote of thanks to the lecturer Mr. Manikka Nadar and to the Teachers' Association of H. N. E. High School, Sattur, who played the host to the delegates both at lunch and supper.

REVIEWS AND NOTICES.

WIENER BEITRÄGE ZUR KULTURGESCHICHTE UND LINGUISTIK—VOLUME I (1930)—PUBLISHED BY THE INSTITUT FÜR VÖLKERKUNDE OF THE UNIVERSITY OF VIENNA, NEUE HOFBURG (CORPS DE LOGIS)—YEARLY SUBSCRIPTION £ 1.

This is a welcome addition to the band of German learned periodicals that serve the cause of higher scholarship in Europe. It is published under the auspices of the newly re-organised "Institute of Folk-Lore" of the Vienna University, presided over by Prof. Dr. Koppers. The promoters of this periodical expect to bring it out either as an annual issue (like the present volume for 1930) or as two or more fasciculi in the course of a year. The primary object is to publish the results of original research in what the Germans describe as 'Kulturgeschichte' which embraces the study of all topics relating to the history of culture-origins and which therefore would include Pre-Historic Archaeology, Historical Anthropology and Folk-Lore in all its branches. Many Vienna scholars, it may be noted here, have specialised in this field already; and some of the most important publications on this subject hail from them. Following the lead of the great Catholic savant, Father Dr. Schmidt, the promoters of this periodical aim also at envisaging in its columns problems of linguistics, "eingedenk der Tatsache, dass die Sprache in ganz hervorragender Weise, auch im Bereiche der sogenannten Primitiven oder Naturvölker, eine menschlich-geistige und damit ebenfalls kulturgeschichtliche Äusserung repräsentiert."

In the volume (for 1930) under review, there are seven articles in all, of which four deal with the history of primeval "culture" and the remaining three treat about linguistic problems.

The longest among the articles is that of Dr. Flor on "Domestic Animals and Nomadism" in which the author after reviewing exhaustively the existing material on this subject, adumbrates certain conclusions regarding culture-origins. In a paper on "The Division of the year into 360 days," Dr. Fritz Rock discusses briefly the nature, origin and distribution of this kind of division of the year. There is an interesting paper (by Von Färer Haimendorf) on the institution of the Bachelors' clubs among some of the primitive tribes of Assam and the frontier tracts of North-East India. The editor of the periodical, Prof. Dr. Koppers,

has himself contributed a learned paper on "the Dog in the Mythology of the circum-Pacific Peoples" wherein he outlines perspectives regarding the ancient cultural relationships of the old and the new continents.

Father Schmidt offers valuable new orientations in his linguistic paper: "The Relationship of the Austric Speeches to Japanese." The article is more in the nature of a review (of Matsumoto's recent work) than an original thesis; but Father Schmidt has made a number of exceedingly significant suggestions which no student of the subject can lightly pass by. He rejects Matsumoto's view that the Japanese language and the Austric speeches had *une parenté initiale*, on two grounds: that the word-correspondences adduced by Matsumoto point only to a kind of separate contact between Japanese on the one hand and the branches of the "Austric" family, *after the ramification of "Austric" had occurred on the other*; and secondly that while Japanese is a suffix-language employing the prefixation of the Genitive, the "Austric" speeches on the whole are prefix-languages employing the suffixation of the Genitive. Father Schmidt then proceeds to define the probable character of the relationship of Japanese to "Austric" and suggests that a strong "Mischungelement" of the separate branches of "Austric" may be contained in Japanese.

Dr. Bleichsteiner's paper on Burushaski-Warshikwâr—a "mysterious" non-Aryan speech spoken by about 20,000 people in the Pamir district—seeks to connect this language with the Caucasian group, by pointing out remarkable parallelisms in Phonology, Morphology and Vocabulary. The affinities of Burushaski have all along been a puzzle to scholars, probably because nobody had yet sought to make an intensive scientific survey of the material on the spot. Very recently this latter work has been accomplished by Dr. Morgenstierne of Oslo and, now that the data are before the scholars, we may hope to have some satisfactory views about the affiliations of Burushaski.

The erudite Italian scholar Trombetti, we believe, was not justified in postulating affinities between Burushaski and Dravidian; for, so far as we can see, the resemblances are purely superficial.

On the other hand, the parallelisms between Burushaski and Caucasian, adduced by Dr. Bleichsteiner, are very striking, especially in Morphology; but, as the author himself admits, his paper is only a *Rohskizze* and there is need for much fur-

ther investigation. Let us hope that Dr. Bleichsteiner will be able to reinforce his thesis with the help of the new material that will soon be made available to the public by Dr. Morgenstierne of Norway.—The third linguistic paper deals with "Dvandva-like word-coupling in Aztec" and gives us some interesting material from this American language.

An excellent start has been made with the volume under review; and we are sure that the standard attained here will be kept up in the future too, especially as the editorial charge is in the hands of the distinguished Vienna Professor, Dr. Koppers. In their Foreword to the present volume, the promoters of the periodical strike a note of indefatigable optimism when they observe: "Eine Neugründung in wirtschaftlich schwerer Zeit! Wenn auch nicht ohne Sorge, so sehen wir ihrer Entwicklung dennoch mit guter Zuversicht entgegen. Die Wissenschaftlage der Gegenwart erheischt wohl ein Organ wie das vorliegende. So soll es an uns nicht fehlen, und es wird, dessen glauben wir überzeugt sein zu können, trotz allem auch nicht fehlen an Interessenten." We bid the promoters godspeed in their praiseworthy endeavour to serve the cause of scholarship manfully in the face of discouraging circumstances.

COMPLETE CONJUGATION OF FRENCH VERBS, REGULAR AND IRREGULAR, GROUPED ACCORDING TO THE NEW CLASSIFICATION BY J. O. KETTRIDGE — LIBRAIRIE HACHETTE. PRICE, 2s.

COMPLETE CONJUGATION OF GERMAN VERBS BY J. O. KETTRIDGE — LIBRAIRIE HACHETTE. PRICE 2s.

These two books present to the student—in a schematic and graphic form, with special emphasis on the appeal to the eye—a detailed account of the peculiarities, rules and exceptions underlying the conjugation of French and German verbs. To the student of French and German composition, it is perhaps the conjugation of the verb (and especially of that class of verbs, which is usually called "irregular") that offers the maximum difficulty. The rules are in certain instances varied by so many exceptions that the beginner gets very often lost in a labyrinthine maze. He has therefore to study and remember these as well as he can, by resort to mechanical aids. It is here that the student will find a practical use for the books under review. The clear and systematic arrangement of the facts, the use of the bolder type to distinguish

new matter from the old, and the stress laid on the essentials are, in our opinion, noteworthy features that would help the student in remembering the rules and variations.

In the book on "French Verbs" the author has rightly adopted the nomenclature and the classification of verbs popularised by the French educational authorities. The adoption of this system, we think, helps the student in remembering distinctions which he might otherwise miss, *e.g.*, the difference between "Verbs essentially impersonal" and "Verbs occasionally impersonal." The peculiarities in spelling, accent, etc., of the conjugational forms of verbs are described carefully; and these are accompanied by hints as to the reasons for the differences in question,—a very welcome feature which helps to remove the perplexity of the student and in a way satisfies his curiosity to know the *rationale* of these variations. For the benefit of those who are accustomed to the orthodox classification, the author has, through a comparative table, pointed out the differences between the old and the new systems.

Among useful features in the book on "German Verbs", the following deserve mention: the clear differentiation of the "national" and the "auxiliary" use of certain German verbs; the systematised treatment of the unique peculiarities of the "separable" and "inseparable" compound verbs; and the lucid classification of impersonal verbs.

As genuine "help-books," these manuals merit a wide popularity among students of French and German.

PROSE EXTRACTS FOR THE STUDY OF COMPOSITION, FIRST SERIES (SUPPLEMENT TO THE PUPILS' CLASS-BOOK OF ENGLISH COMPOSITION — BOOK II); SECOND SERIES (SUPPLEMENT TO PUPILS' CLASS-BOOK, BOOK IV). ARRANGED BY E. J. S. LAY, MACMILLAN & CO., LTD. PP. 112. PRICE, 1s. EACH.

The teacher of English and of English Composition in special must appreciate keenly these two little books which are full of complete little passages taken from the standard books. Besides a series of "don'ts" and a good deal of theoretical preaching what is most useful to the student is a series of examples of good composition such as are found in these two little books. They are divided under various headings according to subjects. The Second Series introduces anecdotes, stories of

adventures and other attractive matter. Altogether the books offer much attractive reading to the young pupil and will lend themselves to effective use in the composition class.

ACTIVE ENGLISH READERS BY H. MARTIN. K. & J. COOPER, BOMBAY. READER I. PP. 92, PRICE, 8 as. READER II, PP. 152, PRICE 11 as.

These readers have followed the Third Reader which was issued earlier. The Publishers have spared no pains to bring out these books in the most attractive form suited to the needs of pupils. The First Reader which may be used after about a year's grounding in the elements of the language uses large types and large pictures in clear outlines. The size of the page is also larger than that of other Readers. The lessons are excellently varied, poems, dialogues and lessons of short sentences all finding place. The lessons in the second book which lead the pupil to a higher standard of English are all beautifully planned offering a rich variety of material. We congratulate the Publishers and the author warmly on this work.

A FRENCH COURSE FOR SCHOOLS, PART III, BY H. F. COLLINS. MACMILLAN & CO., LTD., PP. 172. PRICE 2s. 3d.

This book takes the pupil to the third or fourth year course. The lessons are cleverly arranged so that a prose passage, a poem, grammar and language exercises should all come together in one lesson. More than fifty pages at the end of the book provide appendices, including grammar and a vocabulary.

THE NEW MATRICULATION LIGHT BY R. W. STEWART, D. SC. REVISED BY R. W. HUTCHINSON. UNIVERSITY TUTORIAL PRESS, LONDON. SECOND EDITION, 1931. PRICE 3s. 6d.

The book treats of the elements of Light, both practical and theoretical, and will prove a suitable introduction to the study of optics. The facts are presented in a simple and interesting manner, and are profusely illustrated with a large number of diagrams, numerous worked out examples and a detailed course of instructive experiments. Many of the practical illustrations are from everyday life.

Revision exercises at the end of each chapter add considerably to the usefulness of the book. The book will be found very useful to students of the Intermediate Examination of the Madras, Andhra and Annamalai Universities.

PANORAMIC INDIA:—BY W. R. WALLACE, WITH INTRODUCTION & NOTES BY KANAIYA LAL H. VAKIL, B.A., LL.B., Price Rs. 10. D. B. TARAPORAVALLA SONS & CO., BOMBAY.

This book just published contains the panoramic photographs of India taken by a circuit camera and the originals of these photographs, we understand; measure 4 ft. by 1 ft. each. "India despite its manifold and immense graphic realities, has been, it would appear, more written about than seen" and this compilation of India's Nature's beauty spots, architectural monuments of greatness, and picturesque cities will certainly rouse the interests of artists and others of this and other lands to find India's hidden treasures,—its vast heritage of wealth of beauty among others. We agree entirely with the author that technical advancement in photographic presentment and reproduction is a positive addition to the means and facilities for cultural interchange and understanding between nations and given the proper place they will surely command an international demand, interest and importance—and this India needs to a great extent to-day, and with educative value behind as the one under review which is the first of a series. India will attract other nations to have a glimpse of this land of ours—"the Heaven on earth." We await with interest the rest of the volumes and strongly commend a copy of it to every School and College library, besides its being an ideal gift book. It is richly got up and is a treasure worth keeping by all, affording as it does a feast for the eyes.

YOGA PERSONAL HYGIENE—SCIENTIFIC YOGA SERIES, VOL. II, BY SHRI YOGENDRA, FOUNDER OF THE YOGA INSTITUTES IN INDIA AND AMERICA, WITH A PREFACE BY DR. JOHN W. FOX, SURGEON IN CHARGE OF THE AMERICAN QUINTER MEMORIAL HOSPITAL (YOGA PUBLISHING, POST BOX 481, BOMBAY.) Price Rs. 10.

Personal hygiene is a subject of very extreme interest and any book that can successfully offer

practical instructions on this subject is always welcome. Those who hold queer notions about Yoga being mysterious, will be surprised to find in this remarkable work a most scientific, rational and practical treatment of the subject of individual hygiene based on the most modern knowledge of the Western sciences compared and corroborated with the Yogic art of living. It is written in a very lucid and popular style to benefit the lay reader and contains scientific details of laboratory and clinical tests conducted by the author under medical supervision.

The subject matter is treated under various chapters, viz., the care of the teeth, tongue, sinuses, ear, nose, eye, stomach, the intestines, the brain and the nervous system. The chapters on care of the respiratory apparatus and the general hygiene are extremely useful. His recommendations of sex

hygiene in school, a chapter which we understand is introduced at the request of Prof. H. C. Mukerjee, Inspector of Colleges, Calcutta University, is an instructive practical guide to both the teachers and the students. At the end of each chapter a hygienic time-table is given and the average time required for undergoing the various Yogic exercises suggested for the care of different organs of the body is mentioned to aid one's time for and going these Yogic exercises every day. The exercises and practical directions are quite simple and should form a part of physical training taught in our educational institutions. It is a book which is well worth reading and keeping in the schools, colleges, Universities and public libraries for reference on the Yogic personal training presented by this able scholar in the light of modern health literature.



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"An excellent work that is thoroughly scientific in its treatment and practical in its scope" — *Bombay Chronicle*. "It forms a very interesting and instructive study" — *Q.M.S. Journal*. "A challenge of clinical and laboratory tests that reads like propositions in algebra or geometry" — *The Daily Mail*. "A most comprehensive and practical treatise on the care of the body. Fills a unique place in literature" — *Literary Review*. "Deserves special attention and admiration for it represents a great field of personal training secretly taught in India" — *The Times*.

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THE LONDON TIMES EDUCATIONAL SUPPLEMENT, AUGUST 1ST, 1931:—

"Anyone who studies the Indian provincial educational Press will admit the relative superiority of Southern India in the number and variety of its educational publications. The oldest existing periodical of the kind is the **Educational Review**, published at Madras, which is now in its thirty-eighth year. Mr. Thomas Denham, of the Mysore Educational Service, was the first editor, and has been followed by a succession of able men."

PUBLISHERS' NOTICE.

All literary contributions, books for review, newspapers, or magazines, sent in exchange, &c., should be addressed to the Editor, No. 190, Mount Road, Madras. Articles and communications intended for publication in the succeeding issue should, as far as possible, reach the Editor not later than the 20th of the month. The Editor solicits contributions on all subjects of educational interest. Stamps should accompany the MS., if the writer wishes it returned, in case of non-acceptance. The Editor can in no case hold himself responsible for accidental loss.

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THE EDUCATIONAL REVIEW.

It was a refreshing address which Dr. M. O. Forster, Director of the Tata Technical Institute of Science at Bangalore, delivered at the recent Convocation of the University of Mysore, held at Mysore. Men like Dr. Forster who are engaged in scientific laboratories do not often make public speeches and this perhaps adds to the wisdom of their utterance when they do speak sometimes. In offering the usual exhortation to graduates, Dr. Forster began with offering for emulation two great lives, that of Faraday and of the philanthropist J. N. Tata. Apart from the Iron and Steel Works at Jamshedpur and the Hydro-Electric Scheme which supplies Bombay with light and power, the most glorious handiwork of Mr. Tata's educational experiments has been the Indian Institute of Science. We cannot speak too highly of this institution but for which numerous gifted graduates of this country would have missed a suitable place for doing research work.

But it was in presenting a complete view of life that Dr. Forster showed the characteristic attitude of a scientist. Nor is he unaware of the fact that the cultivation and knowledge of a particular branch of science does not necessarily equip a man with a truly scientific outlook in life, in the matters of practical conduct. In trying to state "the great value of a scientific training," Dr. Forster is careful to bring in the proviso, "provided you have made it a part of your being," and the value of the training, he proceeds to state, "is that it helps you to

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distinguish fancies from facts, and opens an inexhaustible treasure-house of interest in life." We may look to a practical illustration of this in the lecturer's analysis of the factors of a happy life, which according to him, are good health, congenial employment, and a monetary reward for that employment adequate to family requirements, and to such wholesome relaxation as will give labour renewed zest and contribute to a well-balanced outlook on life. It does credit to the courage of Dr. Forster to have spoken in such a straight matter-of-fact fashion as he has done. His speech is a corrective to all the vague expressions in attractive language indulged by many speakers in allusion to a spiritual or religious ideal. Dr. Forster realised the difficulty of young men getting admission into a profession. "The first rung of the ladder is often the most difficult on which to secure a foothold; it is a truism that there is more room at the top." Having secured a start in life, the next concern for a young man was to conduct himself so as to win success. Dr. Forster rose to a very profound degree of moral appeal when he said that "the greatest need of the world to-day is good-will and patience." This good-will should be due not a little to the understanding of the truth that there is some good in every man we meet.

An important warning uttered by Dr. Forster was to ask the graduates whom he addressed, to avoid being caught by catch-phrases. The first of

them was the talk about "equality of opportunity." To the extent this sentiment prevented people from realising the duties they have to perform side by side with the privileges they claim to enjoy, it was certainly most reprehensible. But Dr. Forster set the crown to the preaching of what may be regarded as his materialistic doctrine, (though we approve of it entirely) by his remarks on the poverty cult. He gave us an example of clear thinking when he pointed out the radical difference between involuntary poverty which is a dire misfortune and voluntary poverty which is a luxury. He also offered a dignified apologia for the costliness of modern life. "Life," he pointed out, "has rapidly become filled with an enormous variety of wonderful and beautiful things, interest in which is no discredit to anybody; but in the aggregate they are expensive." It must have been as the result of acute observation that Dr. Forster was able to point out that the consequence of the poverty cult would be the confirmation of indolence and thriftlessness which we all possess in some measure. Many a young man has missed his true career as the result of the poison of the poverty cult. Dr. Forster has analysed the pernicious effect of the cult on the young men who have been led astray by it. But he has not referred to the essential falsity with which it is cried up. There are men in cities who go out into the province only to deliver lectures on "Back to the Village." Men dressed in gorgeous robes blazing with the star of an exalted order of knighthood speak eloquently, for instance, of

the vow of poverty being sacred to education. There are those who are for ever dwelling on the richness and completeness of an indigenous or vernacular education and yet take the earliest opportunity of shipping away their own children to England for education. Another group of people is not tired of holding up for the striving of others a "spiritual" ideal in life in obvious contempt of the concern for the material things, and yet in private they are found to be keenest in increasing their bank balances. We find sentimental men everywhere around us, men who are fond of sentiments for their own sake and preach them without any the least intention of practising them themselves. The profession of a high-sounding sentiment is to them an end in itself. It is refreshing therefore to turn to others who do not wish to luxuriate in beautiful sentiment but are content to speak plain and useful truths. Undeterred by any fear of being charged with sordidness, Dr. Forster asked the young men before him to be careful of their money and to save it. The only real independence in life is the economic independence, and Dr. Forster, like the poet Rudyard Kipling in a Rectorial Address delivered by him, asked the Mysore graduates to be mindful of saving money for provision against the rainy day. Dr. Forster concluded his excellent address with an exhortation to practise what he called the old-fashioned virtues of kindness of heart, honesty of thought and action, modesty, industry, and thrift.

News has arrived of Professor P. Seshadri's activities in America. The Professor has attended and actively shared in the fourth session of the World Federation of Educational Associations held at Denver. The value of such an assemblage of men composed of representatives from the different countries of the world can never be lightly estimated. We learn that actually fifty-four countries were represented at Denver. However formal the proceedings may appear, the cause of international good-will and understanding must be helped in some degree by the common deliberations on the problems of education. The appearance of Prof. Seshadri at this World Conference was calculated to make a profound impression on the rest of the world. The understanding between different countries is never so well promoted as by the mutual appreciation of worthy representatives of the countries. To the European or American people the meeting with an Indian gentleman embodying in himself the highest culture of modern India is itself a matter of considerable education. India was fortunate in being represented by Prof. Seshadri at Denver. He is the President of the All-India Teachers' Federation. He is also the Secretary of the Inter-University Board of India. Few in India are so familiar as he with the educational organisation of this country. Prof. Seshadri is also an inter-provincial figure in India. Though typically a Madras in the keen intellectual training and outlook, he has been an active educationist for the past

Principal Seshadri in America.

fifteen years in the United Provinces and all the time he has been connected with all the other Universities of North India. Prof. Seshadri was an early enthusiast of English in his own generation and his great scholarship and refined taste have made him a writer and speaker of extraordinary effect. It is no surprise that he was listened to with great deference at Denver, and indeed his speech is reported to have been the best on the occasion. He was invited by the Conference to speak also on the New India, and he gave a talk later at the National Broad-casting Company's studio which was broad-cast all over America. He was the guest of honour at the Optimist International Club of Denver at a luncheon. Professor Seshadri has been re-elected a Director of the World Federation and also been made one of the Executive Council of three. We are tempted to conclude this note with an extract from the *Denver Post* of July 28th, under the caption, "Leader of India Appears in Turban": "Rubbing elbows with the Japanese was P. Seshadri, Secretary of the Inter-University Board of India, President of the Indian Teachers' Federation, his head wrapped in a white turban, bordered in gold, and his features worthy the chisel of ancient Greece illuminated by eyes that shine like lamps."

We have pleasure in acknowledging receipt of the Report of the Nagpur University for the year ending with

A University Bequest.

the 30th June 1931. As this is one of the later Universities, the first examinations of which were held in 1925, the progress attained under its auspices should be specially gratifying. On one side, it is distressing to note the expression of discontent on account of insufficient finances, chiefly because of the stringency of the government. We are apt to regret perhaps in consideration of this, the quick multiplication of the Universi-

ties which has involved such enormous initial expenditure in each case. But self-sufficiency is an ideal in itself deserving to be realised even at great cost. The present stringency of the government finances is only an abnormal phenomenon which should be a transient one. The worst feature of the present situation is its effect on the additions to the library. The total number of books in the University library is only 15,758 and the prospect of adding to it this year seems to be little. To set against this depressing fact we have the news of the magnificent gift made to the University by Rao Bahadur D. Laxminarayan of Kamptee. The share of the estate bequeathed to the University is estimated at Rs. 33, 88, 508 while it is also the reversionary legatee of other shares valued at Rs. 4,25,514. The donor made the gift "for the teaching of Applied Science and Chemistry to the Hindu students domiciled for not less than six years in the Central Provinces and Berar." As the immediate future of this country depends obviously on the rapid development of its resources by advanced scientific knowledge the aim of the donor is most laudable. Nor can it be objected that the beneficence is only for Hindu students. Patriotism can grow in a healthy manner in gradually widening circles. If every community can learn to take care of itself, the world will get on quite well. The effective donations in behalf of his race made by Cecil Rhodes will remain a permanent example for imitation for all time to come. The Nagpur bequest has apparently not yet come into operation, but when it does, it will form a great record in the growth of University education in India. We know of the great College of Science at Calcutta which came into being as a result of the benefactions of two great donors, Sir Rashbehari Ghose and Sir T. N. Palit. We may expect a similar institution to come into being at Nagpur. It is interesting to note that the Nagpur University received

during the year a portrait of the late Mr. J. N. Tata. We also learn that his name is associated with the main University building of the Nagpur University.

Two features of the University may be specially mentioned here. One is the University Training Corps which has 280 Men. Provision has also been made for instruction in military science as part of the University courses but this has not been put into effect for want of funds. It is a pity that the University abandoned the Annual Camp for the Corps which should have been held in October. The camp life is most valuable in military training and the University could have made the camp period synchronise with the mid-term or Michaelmas holidays, as the Madras University does, for instance. There is of course a feeling that the needs of scholarship and the strenuous labours of the Corps are not easily reconciled mutually. But it is perhaps just in the triumph over the difficulty that a healthy improvement lies.

The second noteworthy feature of the University is the organisation of popular extension lectures. The report refers to the attempt made "to enable the University better to fulfil its function of a servant of the province" by the delivery of these lectures. It is of course a difficult matter to make these lectures really effective. On the one hand the outside world must learn to feel a need to benefit by the lectures and the University teachers on their part must know the most suitable ways of satisfying the popular needs. The lectures will also have to be in the vernacular, if they are to have a wide and thorough appeal to the people.

The Address delivered by the Rev. John McKenzie at the Bom-

The Bombay University Convocation.

bay University Convocation attains the dignity and solemnity which we have come to associate with

Convocation Addresses. For this reason, it does not perhaps call for special remark. We have also had occasion to refer before in these pages to Mr. McKenzie's views about the aims of University education. He has gone afresh into the discussion of utility and idealism or a purely cultural aim in education and shown that both are complementary to each other. Though it is a point expounded as early as by Newman, the great value of the personal contact in University life was rightly emphasised by Mr. McKenzie. He also tried to make clear the meaning of "national education." In the first place, it is a good principle that education should be related to the environment. In India national education needs to have a close touch with agriculture and industry. In the second place, education should concern itself with the nation's contribution to the knowledge and culture of the world—its history, its literature and its philosophy. Mr. McKenzie also spoke about a spurious kind of internationalism threatening to spread over the world now—a feature by no means helpful to international co-operation, but only setting up everywhere a uniformly vulgar view of life.

The subject of examinations has recently been placed prominently before the educational world. That

examinations form the key to education of all grades cannot be denied. In the Universities, examinations are still the most important item of their activity. Examinations are the most important source of income to the Universities. They also form the largest item of expenditure for them.

Let us take the example of a younger University, the Nagpur University, the Report of which is before us. The number of examinees was 1493 and the total expenditure was about Rs. 47,258, and

net loss for the University, nearly Rs. 5,000. Considering purely the large amount of money spent on examinations we should infer that the subject of examinations is of the greatest importance. Examinations have been described sometimes as a necessary evil. But it is arguable that they may be a necessary good. Professor William McDougall writing in the *Manchester Guardian* states that we have all reason to be satisfied with examination tests. As examinees we feel examinations a great stimulus to induce us to put forth our best effort. As examiners we also feel how nearly similar the standards of different examiners prove to be. So we acquire a great feeling of satisfaction. But our sense of satisfaction cannot always remain undisturbed. Examinations are in their very nature defective as tests of ability. They encourage memory rather than the development of real ability. Then we have to note the vagaries of examiners. Standards seem to vary with each examiner, and we have no means at all of finding out the fitness of an examiner for his job. When we remember the great importance which examination results have on a man's life, in almost determining his career, we feel the uncertainty of the examination test an appalling matter. Professor McDougall has suggested in this connection a simple remedy, the preparation of an examination manual for the guidance of examiners. The manual would set forth the points by which answers may be evaluated. It would "make the examiner explicitly aware of the distinguishable qualities of a written paper that make for merit or high marks, qualities or elements such as knowledge of the subject matter, relevance, width of grasp or synthetic power, facility of expression, order of presentation, the wit of the examinee to make the most of such knowledge as he possesses." Professor McDougall also believes that a *viva voce* test should always be added to a written one.

Professor McDougall cannot be familiar with examinations as they take place in India. Think for instance of the huge institution of the S. S. L. C. examination, or of the University Intermediate examination. In the latter examination we believe in the complete personal ignorance in the examiner of the examinee as making for impartiality. The numbers of candidates at these examinations are amazing. We requisition every year a large army of teachers to do the examination work, and we think little of the training or special equipment which these teachers must possess to do the examining work.

Mr. N. Kuppuswami Aiyangar of the Trivandrum Training College has discussed the examination system in a recently published booklet. He has given us details of the variability of the examiners' standards, found by a test in an "Optional Mathematics Paper." The marking of one paper varied from 39 to 71 out of a maximum of 100. One wonders what the variability will be in a composition paper. Suggesting remedies, Mr. Kuppuswami Aiyangar is inclined to the restoring of confidence in class records and examinations within the school. A new type of examinations has also to be devised. This must succeed in testing what is intended to be tested. It must be thorough and leave no loopholes for accident. It must also be reliable, so that whoever is the examiner, the result is constantly the same. It must also be fool proof. All this may sound utopian. What is certain is, we have need to bestow a deal of attention to see that we make our examinations as satisfactory as possible. The question of finding satisfactory examiners is only as difficult as that of finding satisfactory teachers. It cannot be pretended that we have devised anything like a satisfactory means of discriminating between efficient and inefficient teachers. We should remain equally content with the inability to choose competent examiners.

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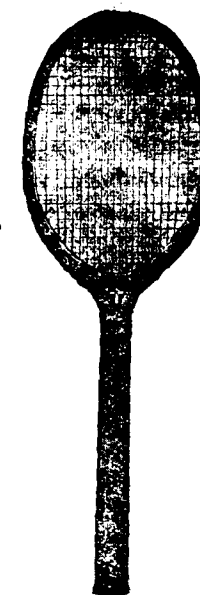
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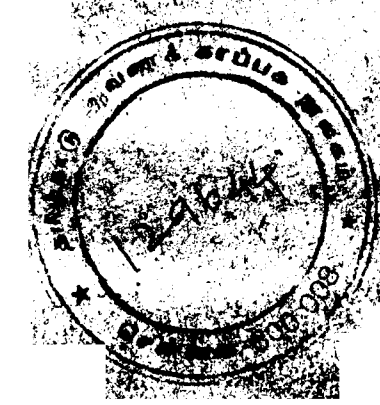
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