

Vol. II]

FEBRUARY 1934

[No. 8

## CONTENTS.

P	AGE
The Statham Committee Report	277
The Earthquake in North India	
The Secondary Structure in Crystals. By S. Rama-	
chandra Rao	
The Incidence of Silicosis in Kolar Gold Fields,	
Mysore. By C. Krishnaswami Rao, B.A., M.B.,	
C.M., M.R.C.P., M.R.C.S.	
Letters to the Editor:	400
Effect of Environment on Awning in Rice. By	
M. Anandan	201
Partial Sterility in the First Generation Plants	404
· ·	
of Crosses between Wide Varieties of the	00 F
Common Egg Plant. By T. K. Balajı Rao	285
A Note on the Regularities in the Spectrum	
Ce III. By V. D. Dabholkar	286
Castronodus strassenii, G. et. sp. n. A New Nema-	
tode Parasite of Crocidura cærula. By Satya	
Narain Singh	287
The Melting Point of a Certain Aminodimethoxy-	
benzoylpropionic Acid. By R. Robinson	287
Chlamydonema fuelleborni n. sp. By M. B. Mirza	288
A Short Note on the Variation in the Strength	
of Reception of Calcutta Short-wave Trans-	
missions at Chittagong. By A. C. Saha	290
An Attempt to Govern Sex Realisation in the	
Rabbit. By Dontcho Kostoff	290
Rydberg's Potential Energy Function and Tran-	•
sition Probabilities. By N. R. Tawde	293
On Stellar Ionisation. By A. Ganguli	294
On Transport Phenomena in Degenerate Gases.	<b>-</b> ,
	295
Seismographic Record of the Recent Earthquake.	
By D. Ferroli	
Organic Manures and Soil Structure. By A.	490
Sreenivasan and V. Subrahmanyan	206
Loch Ness Monster ,	29/
A Study of the Citrus Varieties of the Bombay	
Presidency. By Dr. G. S. Cheema, D.Sc., I.A.S.,	
	298
The Indian Association for the Cultivation of	
	305
The 150th Anniversary of the Asiatic Society of	
m	305
	306
Science News	311
	315
[All rights reserved.]	

## The Statham Committee Report.\*

THE results of the enquiry into the present education system in Travancore are published in a skilfully compiled document, many of the observations and recommendations of which have a purely local interest. However, the chapter on Secondary Education is full of substance and flavour and, holding as this subject does the key-position in the framework of educational organisation, offers certain fundamental problems of farreaching importance, which are well worth re-examination. Admittedly there is a certain amount of legitimate dissatisfaction and a large measure of criticism about the results achieved by this department and it is only natural that neither the University authorities nor the discerning public are happy over the annual output of imperfectly prepared material from the secondary schools. Several causes have tended to produce this unsatisfactory position and it seems to us that few of them could well have been avoided. Secondary Education in India is at the present moment passing through a critical transitional phase in its development and it will probably take a long time before it can fully regain its function of contributing to the moral and material progress of the country.

The complaint against the lowering of standards in the existing high schools is a grievous charge against the teaching, the examination and the equipment. Promotions from the lower classes are alleged to be very unsatisfactory and the prescription of lower minima for the eligibility of matriculates and S.S.L.C. candidates for admission to the University courses as well as the overcrowding of classes by the pupils who have repeatedly failed at the public examinations are usually regarded as other causes which have led to a fall in standards. Another equally serious cause according to the critics of secondary education is the language difficulty, candidates having to acquire proficiency in a foreign tongue which is the medium of instruction and examination. While we admit that there is a large element of truth in all these criticisms, we do not believe that they alone are responsible for the definitely poor standard of attainment presented by the secondary school candidates.

<sup>\*</sup>Report of the Travancore Education Committee, June 1938.

We consider that the efficiency of teaching depends more on the capacity and scholarship of the teacher, the range and variety of the subjects included in the curricula, the methods and appliances employed in conveying instruction and the intelligent and industrious co-operation of the pupils, than on the rigidity of examinations and higher minima. It is true that the latter influences the former, but the curse of education in India is its dominance by examinations. Secondary Education in this country about a generation ago was comparatively free from blemishes such as are attributed to it at present and the criticisms now directed against "standards" were not heard of in those days. The causes which have led to this degeneracy which undoubtedly exists, must be sought for elsewhere.

The doctrine of democratisation of education which according to its exponents means "free education for all," is at the root of the whole trouble. They would "open wide the sluices "and permit "the water of human life to flow under the bridge of education " without considering its purity and power to fertilise. The democratic ideal of education really implies that every child must, "in proportion to his aptitude and regardless of his parents occupation", be provided with facilities for the attainment of the fullest measure of his intellectual and moral stature, but in practice the ideal actually imposes selection of candidates so that "the unfit may not block the way of the gifted and prevent us from offering to the latter a culture worthy of them." The school is certainly a democratic institution where "children of all origins mix and elbow each other on the same benches," but, while no one need be alarmed at mixing and elbowing, it must be admitted that at least for some time to come the selective effects which are expected of education cannot be realised. The children who come from homes where they have neither the proper spirit nor culture, do not possess that predisposition for learning which the more favoured ones bring to bear on their tasks and a class which presents intellectual gradients of a nature disturbing to the uniform progress of instruction cannot hope to reach such high standards of attainment as did schools a generation ago from which these impediments were comparatively absent. It may be expected to take at least three generations of secondary education before a gene. ration of children can arise, possessing

sufficiently wide and uniform intellectual equipment to profit by instruction in a manner satisfactory to the public and the university authorities. The majority of young men attending our high schools do not now possess the advantages of a cultured home, and they therefore suffer from the handicap of a meagre intellectual heritage. The so-called backward communities have to acquire enlightenment before they can impart it to their children and no amount of impatience and criticism can accelerate this rather slow psychological process. The general awakening of the masses to the benefits of education not as a reward in itself, but as a means of absorption into the professions and public service, has introduced into the class-room intellectual inequalities of a kind unknown to the generation of teachers now disappearing, and their successors are accused of not possessing that touch of alchemy which converts pewter into gold. It is true that the classroom should not recognise social distinctions but its obvious function is to discover and emphasise intellectual differences, for "democracy more than any other form of society needs an élite". The criticism against the lowering of standards really arises from the habit of applying the old yard-stick of efficiency to new and entirely different conditions, there has not yet been sufficient time for the large body of the intellectually backward pupils to acquire from their parents the necessary predisposition for an academic discipline. The setback in standards is a psychological phenomenon, inevitable under the existing circumstances.

Apart from the inherent intellectual weakness of the majority of secondary school pupils, over-crowding of class rooms must militate against the attainment of even reasonable standards. The universities therefore have adopted a more stringent method of selection and some of them are even contemplating a unification of the examination system. Nevertheless, one should not forget that the reasons for this indiscriminate participation in a strictly academic type of education by the people lie very deep. The interests of the public are largely economic and it will not in the end be possible to keep young men in great numbers from utilising any educational opportunities that exist to equip themselves for an honourable living. Are all these young men competent to take learning of an academic type as their ideal in life? The difficulty of

"selection" attains its acuteness when we realise that every detail of secondary education is commonly discussed by the public from all standpoints except the right one, viz., the interests of culture. Really the problem of over-crowding stands in the foreground of all educational reform and its solution,—"to leave the door of higher education no more than ajar,"—however desirable it may be, will not be acceptable to the people. It will take some time for them to be convinced that it would be far wiser for their children to be diverted into vocational schools even at the threshold of secondary education from which they can never hope to derive real profit. The prolonged course of three years' study in the high schools ought to provide abundant opportunities for measuring the candidates' capacities and chances of progress in literary learning and now more than ever a comprehensive scheme of psychological tests for discovering their capabilities and natural aptitudes should be applied in order to diminish the hoteh-potch in our schools. Education is a slow process of impregnating the mind, based on careful selection of intelligence wherever it may be found, and nothing can be more hostile to its purposes than the so-called democratic theory that fine literary capacities are found "in widest commonalty spread ".

The outstanding feature of secondary education in India is the rapid growth in the number of institutions and of the scholars receiving instruction in them. This increase which about a generation ago might have meant advancement of national well-being is now generally regarded as a symptom of people's helplessness. Seventy-five per cent. of the pupils who sit for the public examination at the end of three years of training are found ineligible for admission to the University courses and their literary education unfits them to join their fathers' profession. There is certainly a place and use for all these discarded pupils in the body politic and one of the purposes of secondary education ought to be to discover to these candidates the extent and direction in which they can function as efficient citizens. Education in its widest sense is a continuous process of absorbing the environment which in the secondary stage should be sufficiently diversified and illuminating for the encouragement and utilisation of all kinds of talent in the service of the State. The "wastage of pupils" so often complained of is clearly produced by the inclastic and inhospitable

environment provided by the secondary system of education rather than by the examinations. Secondary education is at present attempting to achieve what would be impossible, even if it were desirable, namely, to cultivate literary interests in every one with a view to higher university courses. The problem of wastage of pupils is bound up with our ignorance of the fundamental structure and capabilities of the adolescent mind and teacher and pupil therefore encounter mutual resistance in the performance of their respective tasks. Revision of curricula constantly tending to the restriction of their range and quality, and prescription of lower minima at the examinations, are not a solution to the problem of "wastage", for they only transfer the problem of "standards" elsewhere.

There is another criticism to which the secondary system of education is exposed especially in those provinces in which the matriculation examination continues to be directed by the University. It seems to us that the latter is unjustifiably accused of exercising a baleful influence on pre-university education. Surely the admitting authorities must be conceded the elementary right of determining the standard of attainment and the range of studies in candidates seeking entrance to the University course and until some years ago, there was no impeachment of the relationship between the universities and the high schools. The increasing admission of misfits into the secondary schools for a purely literary type of education is at the root of this criticism also and the only way of removing the reproach is to provide a wider and more diversified course of instruction for such as seem unlikely to profit by academic studies.

The reform of secondary education in India is attended by difficulties which are absent in other countries. Here a candidate failing in the matriculation examination acquires a social stigma, however capable he may otherwise be and however well-qualified for earning an honourable and independent livelihood. Because the government have placed a premium on university degrees as a qualifying test for admission to administrative posts which are supposed to carry with them social prestige and political power, communities hitherto apathetic to higher education, have discovered, under the stimulus of "Communal representation in the Services", a passion for the rewards which a literary education is expected to

confer. This age-long apathy must necessarily impose a handicap on securing immediate academic distinctions on at least a majority of those who but for communalism, would have been content to carry on and enrich the traditional pursuits of their fathers. We must seek and foster intelligence and scholarship wherever they may be found, but no efforts of education can create them where they do not exist and the money and energy devoted to producing them might more profitably be utilised in training the young men to professions for which they possess specific aptitudes. haps the most serious difficulty confronting any rational reform of education is that within recent years it has come too much within the range of communal suspicions, which can only disappear after government withdraws recognition now accorded to University degrees.

We shall have to wait for administrative reforms to be introduced by the new constitution before we can formulate any schemes for reconstructing the system of secondary education and any proposals for educational reform that may be put forward even when the reconstructed government has been introduced must be of a tentative character, for India is an organism still in the process of becoming. A certain measure of national stability in the wider sphere of its functions is indispensable for the sound evolution of educational reforms the necessity for which will need to be adequately understood by the new legislature. Only a thorough conviction that a sound secondary education with a wide range of selective courses must form the backbone of the national well-being can bring effective means for overhauling the educational machinery slowly, wisely and efficiently.

## The Earthquake in North India.

WE associate ourselves with the numerous agencies which have appealed for assistance to relieve the sufferings of our fellow-men in the earthquake-stricken districts of Bihar and Nepal.

The results of the scientific investigations initiated by Dr. L. L. Fermor will, we have no doubt, extend our knowledge of the geological conditions of the Sub-Himalayan regions and perhaps may even provide the people with the means of forecasting these baleful phenomena with some measure of certainty. In these regions which are obviously in the zone of weakness and strain, implied by the severe crumpling of the rock beds in the elevation of the Himalayas, within very recent times, and where the rocks have, therefore, not yet attained stability or quiescence, subcrustal dislocations must be frequent, resulting in more or less disastrous earthquakes always attended by appalling destruction of life and property. The fertility of the Indo-Gangetic alluvial plain has at all times attracted large masses of population who have built in this geologically unstable region, some of the richest cities in the East, little dreaming that their opulence and magnificence practically rest on a powder magazine within a few miles of their foundations.

The recent earthquake is far more intense than the tremors which occurred in 1833 in the same area and is nearly as ruinous as the one which overwhelmed Assam on June

12th, 1897. Earthquakes, floods, famines and cyclones have become numerous and frequent within recent years and the restoration of flourishing and populous cities which are rendered defunct by these catastrophies must be beyond the resources of a single nation. It occurs to us that the League of Nations should devise proposals for setting up an international organisation with the financial support of all countries of the world, to supplement the efforts of private philanthropy in dealing with the cataclysms over which man has no control and against which he has no means of providing protection. We do not believe that our proposal is impracticable for, in our judgment the moral significance of our civilisation must fail if it does not promote an increasing recognition of brotherhood among nations both in times of distress and prosperity, irrespective of their geographical situation and other differences. The League of Nations from its exalted position in the international life is competent to formulate and design schemes for fostering the unity of the different races now divided by narrow parochial interests and no misfortune should occur to any one of them without evoking spontaneous sympathy in the hearts of others. We can conceive of no cause or religion more sacred to humanity than provision of relief for the destitute and suffering and an earthquake is certainly that touch of Nature which ought to make the whole world kin.