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சைதாப்பேட்டை டீசர்ஸ் காலேஜ் கணித போதகாசிரியர் S. பாலகிருஷ்ண அய்யர், B.A., L.T.,

அவர்களுடைய முன்னுரையுடன் கூடியது.

Approved as a Text-Book suitable for School use,

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

(முதல் பாகம்)

பொருளடக்கம்.

I. எண் மானம் 'எண்' துறியும் :—எண்கள்; இலக்கங்களால் எண்களைக் குறித்தல்; எண்களின் சமமதிப்பும் ஸ்தான மதிப்பும்; ரோமன் வழி. II. கோடுகளும் புள்ளிகளும் நீள அளவையும் :—கீழ்ப்; ஸர் பெஸ்கள்; கோடுகள்; புள்ளிகள்; கோடுகளின் வகைகளும் கோடுகளைப் பரீட்சிக்கும் விதமும்; புள்ளிகள் குறித்தலும் கோடுகள் இழுத்தலும்; நீள அளவு; டிவீஷன்களின் உபயோகம்; எண்களை நீளத்தால் குறித்தல். III. கூட்டல் :—கூட்டலின் அர்த்தமும் உபயோகமும்; கூட்டலைப்பற்றிய ஓர் உண்மை; கூட்டலைப் படத் தால் காண்பித்தல்; அடைப்புக் குறிகள்; கூட்டல்; பெரிய கணக்குகள்; கழித்தல்; கழித்தலைப் படத்தால் காட்டுதல்; பலவகை கழித்தல் வழிகள்; கூட்டல் கழித்தலைப்பற்றின சில விதிகள்; கலப்புக் கூட்டலும் கழித் தலும். IV. பெருக்கல் :—பெருக்கலைப் படத்தால் காண்பித்தல்; ஒரு ஸ்தான எண்ணால் பெருக்கல்; பாக்டர் களால் பெருக்கல்; எந்த எண்களைக் கொண்டும் பெருக்கல்; பெருக்கலில் குறுக்கு வழிகள். V. வகுத்தல் :— வகுத்தலைப் படத்தில் காட்டுதல்; ஒரு ஸ்தானத்தால் வகுத்தல்; பாக்டர்களால் வகுத்தல்; 10, 100 முதலிய வகைகளால் வகுத்தல்; நீள வகுத்தல்; வகுத்தலின் இன்னொரு அர்த்தம்; சில பெருக்கல் வகுத்தல் விதிகள் பெருக்கல் வகுத்தலில் சில குறுக்கு வழிகள்; ஒன்பதுகளை நீக்குதல். VI. பலவின வெண்கள் :—அளவை வாய்ப்பாடுகள்; காணய அளவுகள்; நிறை அளவுகள்; நீள அளவு; பிடித்தல் அளவு; கால அளவு; காலித அளவு; எண்ணிக்கை அளவு; இனமார்த்தல்; பலவின வெண் கூட்டல்; கழித்தல்; பலவினவெண் பெருக்கல்; பலவின வெண் வகுத்தல். VII. கோணங்களும் அவற்றின் அளவும் :—திசை, திசைமாற்றம்; கோணம், கோணங்களை ஒப்பிட்டுப் பார்த்தல்; கோணங்கள்; சதுரங்களும் ரெக்டாங்கிள்களும்; வட்டங்கள்; கோணங்களின் அளவு; கோணங்களின் வகைகள்; ப்ரொட்டாக்டரைக் கொண்டு கோணங்களை வரைதல்; ஒரு புள்ளியிடத்தில் உள்ள கோணங்கள். VIII. டெஸிமல்கள் :—டெஸிமல்களின் அர்த்தம்; டெஸிமல் குறிப் பில் ஸ்தான மதிப்பு; இரண்டாவது டெஸிமல் ஸ்தானம்; டெஸிமல் குறிப்பு பொது விவரம்; ஒரு டெஸிமல் ஸ்தானமுள்ள எண்கள்; டெஸிமல் கூட்டல்; டெஸிமல் கழித்தல்; எந்த எண்களையும் கழித்தல்; 10, 100 முதலியவகைகளால் பெருக்கல்; ஒரு ஸ்தானமுள்ள முழு எண்ணால் பெருக்கல்; ஒரு ஸ்தானமுள்ள முழு எண் ணால் வகுத்தல்; பல ஸ்தான முழு எண்களால் பெருக்கல்; பல ஸ்தான முழு எண்களால் வகுத்தல். IX. உயர்ந்த பொது அளவும் தாழ்ந்த பொது மடங்கும் :—அளவும் மடங்கும்; பொது அளவும் மடங்கும்; உயர்ந்த பொது அளவும் தாழ்ந்த பொது மடங்கும்; பாக்டர்களால் இரண்டு அல்லது இரண்டிற்கு மேற்பட்ட எண்களின் உ. பொ. அ. உம், தா. பொ. ம. உம் கண்டுபிடிக்கும் வழி; உ. பொ. அளவைக் கண்டுபிடிக்கும் பொது வழியைப் படத்தாற் காட்டல்; உ. பொ. அ. பொது வழி. X. சதுரமான பின்னங்கள் :—பலவின அளவுகளின் பின்னங்கள்; ஒரு காண்கீட் அளவை இன்னொரு காண்கீட் அளவின் பின்னமாகச் சொல்லுதல்; சமமான பின்னங்கள்; சமமான பின்னங்களைப் படத்தாற் காட்டுதல்; பின்னங்களின் சமத்துவம்; தாழ்ந்த

உறப்புடன்; பின்னங்களை 'ஒப்பிடுதல்'; பின்னங்களின் கூட்டலும் கழித்தலும்; ஒரு சாதாரண பின்னத்தை ஒரு முழு எண்ணால் பெருக்கல்; சாதாரண பின்னத்தை ஒரு முழு எண்ணால் வகுத்தல்; ஒரு பின்னத்தால் பெருக்கல்; பின்னத்தின் பின்னம்; ஒரு பின்னத்தால் வகுத்தல்; ஒரு எண்ணை ஒரு குறிப்பிட்ட டிவிஷனே டி உள்படி மாற்றல்; பின்னங்களைச் சுருக்கல். IX. வாடிக்கை முறை :—பலமாதிக்க கணக்குகள். பரீட்சைக் கேள்விகள். விடைகள்.

முதல் பாகம் 5-வது வகுப்புக்கும் 1-வது பாரத்திற்கும், கிரௌன் 300 பக்கங்கள், விலை அணை 12.

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(இரண்டாம் பாகம்)

பொருளடக்கம்.

பரீட்சைக் கேள்விகள். I. டெஸிமல்களின் பெருக்கலும் வகுத்தலும் :—ஒரு ஸ்தான டெஸிமல் எண்ணால் பெருக்கல்; சமமான பரிசோதனை; எந்த டெஸிமல் எண்ணால் பெருக்கல்; டெஸிமல்களால் வகுத்தல்; சமராய்ச் சொல்லல்; சாதாரண பின்னங்களை டெஸிமல்களாக மாற்றல்; டெஸிமல்களை சாதாரண பின்னங்களாக மாற்றல். II. சராசரி, கோடியோ முதலானவை : சராசரி; ரேஷியோ; மாறாத ரேஷியோ; ரேஷியோவின் உபயோகங்கள்; ப்ரோபோஷன்; வாப நஷ்டம்; வருமான வரி; கடன் மிகுதல் III. பாய் பளவு; பாய்பளவு; ரெக்டாங்கிள்; இங்கிலிஷ் பாய்பளவுகளும் ப்ரெஞ்சு பாய்பளவுகளும்; பாய்பளவு வாய்ப் பாடுகள்; பிளான் வரைதல். அதாவது அமைப்புருவம் வரைதல்; தரையின் பாய்பளவும் நாற்சுவர்களின் பாய் பளவும்; கட்டக் காகிதத்தின் உபயோகம். IV. பொது எண் கணக்கு—சமீகாணங்கள் : அங்க கணிதமும் பீஜ கணிதமும்; சில பெயர் விளக்கங்கள்; சமீகாணங்கள்; இன அங்கங்கள்; அடைப்புக் குறிகள் நீக்குதல். V. முக்கோணங்கள் : அவற்றின் பக்கங்களும் கோணங்களும் : முக்கோண விரிப்பு; முக்கோணங்களின் கோணங்கள் பக்கங்களுக்குள்ள சம்பந்தங்கள்; ஒரு புள்ளியிலிருந்து சிபத்தனைக்கிணங்க மற்றொரு புள்ளி குறித் தல்; இரண்டு புள்ளிகளிலிருந்து சிபத்தனைகளுக்கு இணங்க மற்றொரு புள்ளி குறித்தல்; கொடுக்கப்பட்ட அளவு களைக் கொண்டு முக்கோணம் வரைதல்; வட்டங்களின் சில தன்மைகள்; முக்கோணங்களின் வகைகள்; ஓர் புள்ளியிலிருந்து ஓர் கோட்டிற்கு பெர்பெண்டிகுலர். VI. கோடுகளையும் கோணங்களையும் இருசமபாகங் களாக்கல் : இருசம பக்க முக்கோணங்களின் சில தன்மைகள்; கோடுகளை இருசம பாகங்களாக்குதல்; கோணங்களை இருசம பாகங்களாக்குதல்; கார்ட்களையும் வட்ட பாகங்களையும் இரண்டு சம பாகங்களாக்குதல்; பெர்பெண்டிகுலர்க்கு இழுத்தல்; ஸிம்மெட்ரி. பலமாதிக்க கணக்குகள் : முதல் பாரப் பாடங்களில் புதிய கணக்குகள் :—கூட்டல் கழித்தல்; பெருக்கல்; வகுத்தல்; பலவின எண்கள்; கோணங்களும் வட்டங்களும்; டெஸிமல்கள்; உயர்ந்தபொது அளவும்; தாழ்ந்த பொது மடங்கும்; சாதாரண பின்னங்கள்; பலமாதிக்க. இரண்டாம் பாரப்பாடங்களில் பலமாதிக்க கணக்குகள். பரீட்சைக் கேள்விகள். அறுபத்தாம். விடைகள். இரண்டாம் பாகம் 2-வது பாரத்திற்கு, கிரௌன் 208 பக்கங்கள். விலை அணை 10.

Approved as a Text-Book suitable for School use

vide Fort St. George Gazette, Part I-B, p. 513, dated 13-11-1928.

(மூன்றாம் பாகம்)

பொருளடக்கம்.

பரீட்சைக் கேள்விகள்; அத்தியாயம் I. நூற்றுக்குக் கணக்கிடலும் அதன் பிரயோகங் களும்; II. ருண எண்களும் பீஜ சயிக்கைச் சேர்க்கைகளும்; III. சமாதாரக் கோடுகளும் அவற்றின் தன்மைகளும்; IV. படக் குறிப்புகள்; V. ப்ரோபோஷன்—நோனதும் மாறான தும்; VI. முக்கோணங்களின் சர்வ சமத்துவம்; VII. முக்கோணங்கள், சமாதார நாற்பக் கங்கள், வட்டங்கள் இவற்றின் பரப்புகள்; VIII. பருமன் அல்லது கன அளவு; IX. தனிச் சமீகரணங்களும் அவற்றிற்குக் கொண்டுவரும் யோசனைக் கணக்குகளும்; X. பலவகைக் கணக்குகள்; பரீட்சைக் கேள்விகள்; பலமாதிக்க கணக்குகள்; விடைகள்; பலவின அளவு வாய்ப்பாடுகள். Cr. 8vo. 300 pages. விலை அணை 12.

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UNIVERSITY OF MADRAS— CONVOCATION ADDRESS

By

The Right Reverend E. H. M. WALLER, M.A.,

LORD BISHOP OF MADRAS,

Member of the Senate of Madras University.

IN August 1928 the Convocation Address was delivered by the Viscount Goschen, who for five years has held the position of Chancellor of this University. It is our first duty on this occasion to express our gratification that our Chancellor should now be the Vic-roy of India and its acting Governor-General; and, as a University, to offer to him our respectful congratulations. Our next obvious duty is to acknowledge publicly our gratitude to him for the interest he took in the University, while he presided over its fortunes. It is not given to every Chancellor during his term of office to see two daughter Universities launched on their life and the fact that his Chancellorship saw

the Andhra and Annamalai Universities opened in the area of the Madras University is sufficient to make his term of office memorable. Of his personal kindness and his unfailing interest in its affairs the University will always retain a grateful remembrance.

To you, Mr. Chancellor, we offer our respectful welcome as one who has been for many years familiar with our problems and our hopes and has forwarded our interests in many ways during the long service which you have given to this Presidency.

One other personal reference may be permitted before we proceed to the subject of the address. In 1925 Sir Murray Coutts-Trotter delivered the Convocation Address. His tragic death on his way home has called forth many appreciations of his kindly friendship and his great intellectual powers. The University will miss his presence in the Senate and his wise counsels in matters relating to education: and will desire to add

its tribute to his memory and its own regret for the loss which learning and art have suffered in Madras by his early death.

In all Convocation Addresses the speakers discuss from one angle or another University ideals: and indeed, there can be no more important topic in an assembly of this kind. The late Chief Justice in his address warned us against any easy derivation of the word University which tied its meaning to the universality of its teaching or to the idea that its doors are open to all comers. I will not venture into the philological dispute. I will only refer to the fact that the early great Universities in all lands were distinguished from the ordinary schools, because they sought to probe all truth wherever it might be found; because they considered truth to be essentially one and sought for a synthesis of all knowledge.

The primary object of a University then is the devoted search for truth wherever it may be found. This devotion to truth and to truth alone has made the great Universities international in their character, cosmopolitan in their constituency. During the renaissance of Europe the great Universities of Spain and Italy were the training ground of European scholars from every country of the West. It was in them that Moorish, Spanish, Italian and Jewish scholars handed on the wisdom of Greece and of the East to the newly-awakening countries of the West. The Universities of Oxford and Cambridge threw their doors open to scholars from the continent and in return such Universities as Leyden in Holland received many students from Britain. Learning is not the monopoly of any one country; it is above nations and above geographical limitations.

Turning to India we find in the schools which used to gather in her sacred towns and

from which her ancient literature issued the same all absorbing search for truth. Before the Christian era, to give one instance alone, the great code of Manu, a law-book in verse, covering all phases of life in India, was being shaped in the famous schools of learning which gathered round the great teachers of the day. The Upanishads were the result of free discussions of the great problems of life, under the leadership of sages, to whom gathered earnest students from all over India. And as an illustration of the far-flung influence of these earliest schools of learning in India, we still have the journal of *Fa Hien*, the Buddhist pilgrim, who travelled from China to visit school after school in the sacred places of Buddhism. It may be that to-day we shall have difficulty in recognising such schools as these as the prototype of the modern University. But my point is that in the early days, whether in Europe or in Asia, the unflinching search for truth has been the persistent characteristic of schools of learning from the earliest ages. In them were hammered out by unremitting toil and inexorable honesty of thought ideas which have moulded the world in religion, in government, in science and in art. Can anyone say that such work is not of primary importance in India to-day? We live in the daily clash of unrelated ideals. From every quarter of the world there are pressed upon us new ideals and new remedies for the difficulties under which we suffer. And they come to us disguised in catchwords which hide their meaning and catch the unwary and the unthinking. They may have a meaning in the land of their origin, but is that the meaning they have for India? And if it is, is that meaning going to help us in our special needs? For no two countries are absolutely

alike: and India, with her own wonderful past, has special problems and special needs which cannot be met by the unthinking application of remedies and ideals evolved in other lands and under totally different circumstances. We need above all things honest thinking and wise guidance based on deep search for truth. It is this that our Universities should be giving to us. And in order to do it, they have to lift themselves far above the clash of parties and the strife of politics and concentrate on the search for truth. Truth can never be found, if the solution of the problem is dictated from the first by fear of its consequences or by material interests. Still less can it be reached, if the conclusion is to be based on the supposed interests of a section of the people. And that is the reason why Universities should be above all politics, subject to no economic interests, unafraid even of religious dogmatism. And turning for a moment to the second function of a University, that of training up young men and women to take their part in this inexorable search for truth, that is the reason why it is the greatest betrayal of the very law of its being, that a University should allow its students to be used in party struggles of whatever kind. In ancient India the sages held their schools in beautiful gardens, remote from the common life of men. There they pondered on the truths of the universe. There they instructed the young who were to be so entirely free from other influences that they were not even allowed to take on them the responsibility of domestic life. Their minds were to be concentrated on the search for truth and truth alone.

Does all this mean that our Universities are to contribute nothing to the common life of the nation? That they are to spend their

time in discussions of abstract ideals, remote from practical reality? Certainly not. There is no department of life which is not founded on ultimate realities. In common with the whole world India is facing new problems in every department of her life. Whether we look at politics, economics or religion we see the clash of unrelated ideals. In the midst of all the changes questions have to be thought out afresh. And the ultimate principles based on the world's experience of centuries have to be adjusted to the needs of to-day. Who is to guide India in this search for truth? Who but the learned men who constitute the mind and the soul of the country?

There are two great fields of research which lie open before the mind of India to-day. The first is the most difficult, open only to the few who are ready to give their lives to it; it is the general field of the philosophy of life—a philosophy which needs fresh expression in every generation, as fresh experience gives to the world new light. India is suffering to-day from the conflict of old and new ideals. In the contact of East and West fresh problems have arisen which the experience of neither can solve alone. In India itself we see the old philosophies and the old foundations of society subjected to attacks and to disintegration. We see old and new ideals at bitter feud with one another. And we need thinkers, men who will guide her to a fresh synthesis; men who will study the experience of East and West alike and formulate for the world the principles it so sorely needs. And where can we look for them except in the seats of learning, in the Universities of the country?

The second field of research which is crying out for students lies in the various

departments of the nation's life. The main difficulty in India to-day lies in the fact that she is trying to crowd into one generation the problems of centuries. And in each one there is a lifetime of hard and honest study needed. Industrial and economic problems are crowding upon us: and we find that the ready-made solutions which come from other lands do not fit our case. We have to work out our own salvation. Research work is needed in industry, in medicine, in co-operation, in land-tenure, in hygiene, in agriculture—to mention only a few of the most obvious. Indeed, it would be difficult to find any great question concerning which honest research is not needed in this country: and it should begin in the Universities.

There never was a time when the Universities had a greater opportunity of serving their country than they have in India to-day. If the old schools of learning moulded the India of ancient days, the Universities have to-day a far wider opportunity and a far greater diversity of interest. South India has produced in the past men and women whose names are famous in history for their learning and their writings. Let them be an inspiration and an encouragement to us to-day.

The third great function of a University is the teaching of the young. And here we need again to rethink our ideals. I believe that the granting of degrees to students is a comparatively modern invention. In the old schools in Europe and in India, it was sufficient that a man had studied under some great master; that he had caught some of his enthusiasm for knowledge and was eager for further study and anxious to pass on the truth to others. It may be that this old ideal is impossible in a modern world: but if

the successful passing of an examination is the chief criterion of success, we have fallen far short of all the ideals of learning in either West or East. Think of the old schools of India where the pupils lived and learned at the feet of their Gurus and carried the knowledge acquired by hard toil and simple living to their fellow-countrymen. We often hear it said that we need a national culture developed in our education. And it is profoundly true. The first thing we must have to secure it, is an indomitable love of truth: a determination to face all the facts: a fearless judgment which will weigh the facts and use them all. Education, national education, is not simply a means of preparing for a profession; still less is it a means of securing a qualification to be hawked about in the market. It is rather a preparation for life by learning how to use knowledge already gained and how to acquire more: and more than that, it is the acquiring of an instrument to serve the country by bringing truth and reality into the reach of all. The late Mr. S. R. Das, whose practical zeal for education is well-known, once made a remark to me which impressed me profoundly, because it revealed not so much his judgment of another man, as his own highest ideal. He said of the then Viceroy, "He is a man who thinks honestly." It is difficult to think of higher praise for any man. And yet it is an ideal within the reach of all. It is just as much attainable by (say) a school boy or an under-graduate tempted to try to pass an examination by unfair means, as it is by a man, on whose honest thinking depends perhaps the well-being of thousands of lives. And education should be primarily a training in real honest thinking. By nothing else can the problems of India be solved; by nothing

less can the ordinary lives of ordinary men and women contribute to the lasting good of the nation. But without education this honesty of thought is difficult to attain. Conclusions based on partial knowledge and on one-sided views of facts must necessarily be misleading—even dangerous. And so it comes about that education is the most vital of all the subjects with which we have to deal in India to-day. As I have tried to show, we need the higher research work which will give us a synthesis of Eastern and Western thought: we need the particular research work which will give us the material to solve many particular problems in the nation's life: we need the education which will enable the youth of the country who fill our schools and colleges to appreciate and use the knowledge acquired by the specialists. And above all, we need the self-sacrificing devotion to truth, which enabled the students of ancient India to live their hard and simple lives, content if only they might penetrate a little further into the secrets of the universe.

Is all this too vague and Utopian? Is the market value of a degree to outweigh all other considerations and to defeat the very meaning of a national culture? I do not believe it. For centuries the schools of learning in India thought only of the pursuit of knowledge and that ancient spirit is not dead. Is it too expensive? Can the Universities of to-day with their carefully-drawn budgets and ever-increasing maintenance charges afford to promote research work of the kind I have been indicating? If it is to be done with our present resources, it sounds impracticable. But we have had an example in the last two years of a University founded by one philanthropist. Are there no more men in the country ready to endow research

professorships and studentships and thus to open the way for a real national culture? I believe, there are many, who would be ready, as the princes and rich men of ancient India were ready, to provide the means to enable earnest students to study the many problems on which we need guidance to-day, if only they were shewn the need. And lastly are there the students who are willing to face the sacrifice and the toil involved in giving their lives in this way to the service of the country? Once again, the answer is not in doubt. From this University even now men and women go out to other countries to seek knowledge and culture: even now the sacrifice entailed on parents and students alike is very great and it is cheerfully borne. If the higher ideals and possibilities of a wider education were clearly presented, if the opportunities for service, which lie before the student, were made more tangible, there would be no lack of students ready to devote their lives to it.

I have tried to sketch an ideal of what a University might be. But the practical steps required to realise it are difficult. Nor is this the place to do more than indicate lines of action. If the Universities are to be centres of research they must obviously secure the means by which their professorships, studentships and libraries can be increased and this can only be done by benefactions from individuals. No Government can afford to finance such work beyond very narrow limits. Moreover, if the University is to play the part in the national life which I have sketched, it must be independent of political control: but if its whole means of existence are dependent upon a vote of a Legislative Council that ideal is impossible of attainment. The University should have its

own laboratories and libraries supported by its own funds, its own professors and research students, for whose support it should secure its own financial arrangements.

But even were this ideal realised, there would still be the problem of the great numbers of students who pass through the University but fail to find any sphere in after life. The scope of our education is still too narrow. If the Universities are to be the pioneers of a national culture they must widen their outlook. It is not enough to be independent financially and in the conduct of their own affairs. They must be independent also in the scope of their studies. It has been forcibly pointed out that our educational system is not the natural expression of the life of the country. It is still alien to the thought of the people. It is valued as an entrance to a limited number of professions. The idea that the University is the place where the problems of India may be thought out, has not yet penetrated their consciousness. And so I would plead for a great extension of the scope of its activities. Why, for instance, should religion be barred from its faculties? All the life of India is bound up with its religions. And there are ever new questions raised by the conflict of religions in India on which there is need of fearless and honest thought. Again, in the various departments in which the need of research work has been indicated there is an immense amount of study required. The poverty of India is a well-worn theme. The plain fact is that in the last century the population has increased by about one-third; and the resources of the country have not been developed at the same rate. Without serious research by trained men willing to give their lives to it, there is no hope of

amelioration. If the Universities could shew the way, they would open many fresh avenues of employment, and they would greatly increase the possibilities of development in the country.

There are so many possibilities which lie before a University in these days that it is difficult to avoid being discursive. I will finish by mentioning one great need—the spread of education throughout the villages of India. If any scheme of universal education is to be carried through it will require hundreds of thousands of teachers. But along with that, it requires a great awakening of the people themselves to realise the meaning and benefits of education. Education at present tends to take the youth away from their homes and their villages. It is the door to a life outside; it is an escape from the home life. And the result is that the education which was expected to provide a maintenance and nothing more is proving a delusion and is, as a matter of fact, simply swelling the ranks of the unemployed. And there are not wanting those who cry out against it and would abandon it altogether: the remedy is not the abandonment of education but the widening of its scope and a revision of its aims. And so we come back to our main theme. Our education should be a preparation for life, not simply a qualification for an already over-crowded profession. Its chief aim should be the training of the student in honest thinking and in a fearless facing of the facts of life. And it should be an inspiration for the best service which any man or woman can render to their country—an indomitable presentation of truth based upon toil and sacrifice.

MORAL INSTRUCTION IN SCHOOLS

By

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Principal, Zamorin's College, Calicut.

"Unless above himself he can

Erect himself, how poor a thing is man!"

SAMUEL DANIEL.

1. The introduction of moral instruction into the High School curricula of studies is certainly a useful innovation. Educational authorities have made it compulsory in the High School classes to have one period a week in the time-table set apart for moral instruction. They have also taken care to draw up a complete syllabus for the IV, V & VI Forms and it is clear therefrom that the aim kept in view is to cultivate in the students the spirit of selfless service which is undoubtedly the main-spring of all other virtues. No one is likely to question the desirability of instructing children as to how they should regulate their conduct and form good habits. No one is likely to deny that the presentation of noble ideals illustrated by the biographies of eminent personages has a wholesome influence on the character and conduct of the students. The main object of education being the formation of character, it is only proper that every effort should be made in educational institutions to ensure that the pupils who enter their portals may not only turn out learned scholars but may also grow up good citizens, an ornament to their country in particular and to society in general.

2. There is no denying the fact that the benefit of this teaching, as of teaching most other subjects, will depend entirely on the worth of the individual teacher as a moral educator. The teacher must be a person of exemplary conduct who follows in his life the

precepts which he wants the students to follow. It is, therefore, absolutely necessary that, if moral instruction is to produce the desired effect, proper teachers must be selected for the purpose. The enthusiasm of the teacher, his ability to make his lessons interesting, the stories, quotations, proverbs and examples from history and biography which he has at his command to illustrate the truths of his statements, but above all this, his own personal example will make his class an ideal one. Young students are careful observers and usually imitate what they see and hear. They take notice of such details in their teacher's conduct, as, for example, punctuality, neatness, gentle speech, regard for truth and so on. The teacher's punctual and systematic performance of all his duties is really the foundation of such a habit in the pupils. The most effective method, in fact, for forming good habits in the pupils is the teacher's own example. In habits of punctuality, of good manners, of cleanliness, of cheerful obedience to duty, of respect for others and of truthfulness in thought, word and deed, the teacher has to set the example in the first instance. It is also necessary now and then to make an appeal to the feelings and the personalities of the students also. In this way alone can moral instruction be made to serve the purpose for which it is intended, *viz.*, the formation of character and the regulation of conduct.

3. An erroneous notion exists that a moral lesson must from its very nature be something quite unwholesome and that it is impossible to make it interesting. Teachers very often complain that they find students inattentive during the moral lesson period and ascribe this inattention to the fact that it does not help them in any way so far as their examinations are concerned. This is, no doubt, to

some extent, true, because if students know that a particular lesson will not in any way help them in their examinations, the majority of them will not care to attend. But the teacher is in most cases to blame for this want of attention on the part of his students. If he takes the trouble of making his lesson interesting, he will find that his students listen to him with rapt attention. Short stories by way of illustrations, apt quotations and proverbs and many other devices may be made use of to make the lesson interesting. I can give an instance of this from my own experience. I have taken up the work of moral instruction in the Fourth Form and I always make it a point to think out before going to the class how I should proceed in order to create interest in my students who are young boys between 12 and 14 years of age. My first lesson was a success and it was in this way. I went to the class with the idea of instructing them on the importance of worshipping God, faith in and devotion to God, being, in my opinion, the foundation on which the superstructure of character and conduct must be built up. I explained to the boys with illustrations how it was impossible to deny the existence of a power superior to all of us and told them that this supreme power was called God. Then, dealing with the necessity of worshipping Him, I wrote the following sentence on the black-board:—

"Worship him! You attain a soul devoid of anger, passion and guilt."

I asked them to get this sentence by heart, giving them a hint that it was useful in another way. They were all attentive now. The meaning of the sentence was explained and I said that they should try in their own lives to follow the advice contained therein by worshipping God daily in their lives, setting

apart a portion of their time every day for the worship of God. How the sentence was useful in another way was then explained. I showed them how, if they remembered this sentence, they would be able to find out the day of the week corresponding to any particular date. I worked out an example and there was no student in the class who was thinking of anything else. My object was gained. They were now eager to learn the sentence by heart and knowing its meaning, they would not forget what I had told them about the importance of worshipping God. I am, therefore, of opinion that if teachers take some trouble beforehand, they can make even very dry lessons interesting to some extent. When interest is created, the student will as a usual rule be found very attentive. Careful preparation of the lessons is necessary here as in every other subject.

4. It is the duty of every teacher to see that the moral tone of his school is brought up to as high a level as possible. Without a healthy moral tone, no educational institution is worth its name. Teachers must set the example in every rule of conduct and must instruct their pupils as to the proper way of conducting themselves and developing their character. If this is carefully borne in mind by the staff of every educational institution, and if the necessary efforts are made to carry into practice what is taught in the classrooms, the whole present day educational atmosphere will be purged of the many impurities that have crept into it and there will be ushered into being a new world and a new era where the watch-words will always be "Service and Sacrifice." May such a millennium be in store for us!

THE KŪI VERB*

By

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I. The verb-base.

(a) A great many Kui verb-bases show all the characteristic Dravidian formative endings: *ng, mb, nd*;

e.g; *glōnga* †, to be muddy;
druṅga, to swing;
kreṅga, to shake;
srumba, to be jarred;
rūmba, to roar;
kanda, to be hot;
prōṅga, to be lit, etc., etc.

The spontaneous nasals are absent in some instances with final -g and -d:

mūga, to be finished;
kāga, to become small;
srīda, to be angry;
brāda, to be scattered, etc., etc.

(b) The older bases without any of the secondary formative-suffixes abound:

aḍa, to join;
aḷa, to fear;
ṣa, to say;
iḷa, to place, etc., etc.

(c) The formative surd affix -k (which appears to be represented in Tamil, etc. by the double symbol -kk in instances like *piṛakku*, and the old causal-forming affix -t, seems to

* This discussion of the Kui verb is based upon the materials supplied by the following source-books: Lingum Letchmaje's Grammar; Friend-Pereira's Grammar; the Linguistic Survey of India; Winfield's Grammar. Of these, the last-mentioned work which appeared as recently as about six months ago, furnishes rich details and word-lists, but the few attempts made here and there in the book at philological analysis are unsatisfactory.

† The final enunciative *a* has the value [ə] in Kui.

have been retained in some Kui instances as an essential component of the verb-base, exactly as in the southern dialects:

peska, to pick;
aska, to separate;
ruta, to set light to;
kuta, to prick, etc., etc.

It is probable that these forms with surd-affixes -k and -t appear to be derived from passive verbs with final sonants -g and -d that have either been lost in the language or that were presumed to have existed at the stage of the formation of these words containing surd affixes.

(d) Besides the above, there are certain endings which, though more or less special to Kui, are easily explicable on the basis of essential Dravidian tendencies.

(i) The affixes -pa and -ba are attached to the Infinitive and the Present Participle forms of a number of bases. These are *not* essential constituents of the bases, but seem to have the function merely of denoting the extra *activity* of the verbal action of the base. Most of the bases which have -pa are either (a) verbs which though they may not all be *transitive* in the strict grammatical sense imply a certain degree of activity, or (b) causative verbs which necessarily involve transitival actions:

lohpa, to reside;
klapa, to crow;
ahpa, to hold;
japa, to beg;
vāpa, to strike;
tōṣpa, to show (causative);

(*lepka*) *lākpa*, to raise (, ,), etc., etc.

Final -b also, occurring in a number of forms (as a variant of -p on account of the assimilative influence of final n, l, etc., of the

bases) denotes a certain amount of extra activity of the verbal idea :

timba, to eat ;
uṇba, to drink ;
salba, to walk, etc., etc.

There are, however, no causatives having final -b; the reason for this will be clear from the discussion of the causative verb given below.

The distinction that is sought to be denoted by the employment of this -pa, -ba is, though of secondary development, not peculiar to Kui. In Tamil and Malayalam also, there are certain verb-bases which, denoting as they do a certain extra degree of verbal activity without being in all cases active or transitive (in the strict grammatical sense), are reinforced by the affix -k (appearing as -kk in Tamil-Malayalam); but in Tamil and Malayalam this reinforcing affix appears not only in the Infinitives, Participles, etc., but alternatively also in the Present Tense forms which latter in Tamil-Malayalam, we may observe in passing, are thereby proved to be a comparatively recent formation in these languages.

Such reinforcing affixes are not absent in Kannaḍa and Telugu.

The reinforcing affix employed by Tulu is -p as in Kūi.

It should be borne in mind that the difference pointed out above between verbs (without the reinforcing affix) which are *passive*, and verbs (with the reinforcing affix) which denote a certain degree of special activity, does *not* exactly correspond to the grammatical difference between *Transitives* and *Intransitives*. It will be found on an examination of instances in the various dialects, that even among the so-called grammatical *Intransitives*, a difference has

been sensed on the basis of the degree of verbal activity involved.

(ii) A number of Kui verb-bases takes the suffix -v which, as in the case of the above suffixes, appears only in the Infinitive and the Present Participle.

Every one of the instances given by Winfield in his word-list shows a long vowel in the verb-base :

āva, to become ;
nāva, to be painful, etc.

I am inclined to think that the entire class may be divided into two groups which evidently have fallen together: (a) bases with final dorsal vowels which incorporated the dorsal off-glide -v, as in

nāva, to be painful ;
kāva, to reap ;
sāva, to die, etc.,

and (b) those with front vowels originally having a reinforcing semi-formative -g which subsequently changed to -v, e.g.,

rīva, to burn ;
sīva, to give ;
vāva, to become boiled, etc.

Instead of or in addition to the hiatus-filler v in group (a), alternatively -g also appears in some of the Tamil instances corresponding to the above.

The endings *ṇg*, *ṇj*, *mb*, *nd* are absent in none of the Dravidian dialects; though these endings remain obscure in Kurukh and Brāhūi (in the latter much more than in the former), yet their presence in these dialects is incontestable. The spontaneous nasals are largely present in most dialects in connection with these endings; when these nasals are eliminated, what remains in each case is directly traceable to primitive Dravidian roots :

-g from *gei*, *kei*, to do ;

-j < d from *adu*, *atu*, the neuter demonstrative ;

-b < v traceable to *vei*, to place ;

-d from the neuter demonstrative.

The Tenses. The primary tenses of Kui, as in all other Dravidian dialects are two: (a) the Aoristic Tense (called by Friend-Pereira the Intermediate Tense and by Winfield the Future Tense) which in function does duty for the Present and the Future, and (b) the Past Tense formed with the characteristic Dravidian affix -t (< *atu* the neuter demonstrative.)

(a) The Aoristic tense forms show the following affixes :—

	Singular	Plural
1st Person	i	(n) amu
2nd „	di	deru
3rd „ Masc.	(n) enju	(n) eru
„ „ Fem.	(n) e	(n) u

An examination of the above would show that, except in the second personal forms, no characteristic tense affixes are apparent; the endings are pronominal, the hiatus-filler -n (*cf.* the use of -n as hiatus-filler in Tel., Tam., etc.) appearing in the Third Personal Forms.

The affix -d in the Second Personal forms appears to be a genuine tense-affix, but it is found only in the affirmative forms, (*cf.* the Present Tense affix -d of Kannaḍa and -t of Telugu).

Other Dravidian dialects show that the distinction between Present and Future should originally have been wavering and there was only one original Aoristic Tense. The separate Present Tense forms found in some dialects were later developments, formed with different affixes in the different groups of dialects.

The only Dravidian dialect which apparently shows a Present Tense formed merely of the base and Pronominal endings is Brāhūi; but Brāhūi shows also the Future forms with -v.

The most ancient Aoristic form, common to all Dravidian dialects, was one framed with the affix -v. It can certainly not be that Kui alone failed to have it. I am inclined to think, therefore, that the Old Aoristic forms with -v became attenuated in Kui into what now appears as the affixless (except in the 2nd person) forms of the so-called Indeterminate Tense, which functioned as Present and Future. The Tense-affix was added to the Affirmative 2nd person only. An old Aoristic form with -vu, *sīvu*- (I give, I shall give), for instance, changed into *si*- in Kui, with the absorption of -v (*cf.* Brāhūi Future for the absorption of -v).

It is true that the Present tense form in Dravidian may often (as in colloquial Tamil, for instance) do duty for the Future also; but as nowhere else in Dravidian a separate Future form is absent, and as the Future with -v appears as a dominant Aoristic form in many dialects, it is, I think, more reasonable to view the Intermediate Tense of Kui as the attenuated variety of an ancient Future form with -v affix.

This is considerably probalised by the fact that Infinitives with the affix -v as in *sīva*, *gīva*, etc., and verbal nouns with -p ending (from -v, the common Dravidian affix which stands for the Future) occurs very freely in Kui, e.g. *gippki* (doing); *tinba* (eating); *uṇba* (drinking); *māpa* (seeing); etc.

(2) The Past Affirmative forms are very regular. The common Dravidian affix -t is conspicuous: *sīta* (I give), *sīti* (thou givest),

sitēṇḡu (he gave), *sitamu* (we gave), *siteru* (you gave), *siteru* (they gave). It will be seen that the other Past affix of Dravidian viz. -i, occurs in Kui Past Adverbial Participle.

The pronominal terminations also are characteristic:

1st personal singular: $i < \bar{a} < \bar{e}n$ (common Dravidian first personal ending).

2nd person singular: $i < i$ (common Dravidian 2nd personal ending).

3rd person masculine singular: *enju* < *anju* < *āndu* (Jāṇ). Compare Kurukh *āndru* (male) and South Dravidian *āṇ* (male).

3rd person feminine and neuter is distinguished by the absence of the masculine suffix.

The plural terminations *āmu*, *ēru* and *ēru* go back to typical Dravidian pronominal roots *ām* (we), *ir* (you) and *ar* (they). Evidently *ir* and *ar* have fallen together in Kui. The Inclusive 1st personal plural is distinguished from the Exclusive, as in Kurukh.

3. Negative Tense-Forms.

The negative forms of the verb are also typically Dravidian, i.e., formed with the negative participle -a introduced as an affix, e.g.,

1st personal singular: *si-e-nu* < *si* + *a* + *an* + *u*, the negative affix changing into *e* by euphonic mutation.

Kui affixes the negative particle -a in all tense-forms but not in verbal nouns, infinitives and participles which take *siḡ* (< *il*).

The introduction of the Negative affix between root and terminations is quite characteristic of Dravidian, occurring as it does exclusively in Old Tamil, Old Kannaḡa and Gōṇḡi, and partially in modern Tamil, modern Malayālam and modern Kannaḡa.

Tulu post-fixes *il* (*illa* > *ijje* in Tulu) and *al*; Kurukh prefixes *mal* (< *val* < *val* < *al*) and *amba* which last is probably from *Jāy*, to separate.

In the 1st and 3rd personal singular negative and in the 2nd and 3rd person plural, the particle -a is changed into -e by mutation; in the 2nd person singular and 1st person plural, the particle -a appears as such.

The negative verb *siḡ* takes the negative particle -a regularly when declined. This is but natural when we consider that *il* (not) originally acquired its negative meaning from final -a in *illa*.*

4. The imperative *simu* shows the *m* of the southern Future (*seyyum*), etc.; the Imperative plural ending -*d* or -*t* is from Dravidian Plural ending -*r*. *simu* (give thou) < *sium* plus an enunciative -*u*; similarly *situ* (give you) < *siru* < *siṛ*. In the plural form an enunciative -*u* was used by analogy with the singular. -*m* in the Imperative is only an emphatic enclitic appearing as a common affix in Dravidian. While the use of this enclitic in the modern Tamil Imperative form has developed an honorific significance, in Kui the original singular meaning is retained, as in classical Tamil also.

5. The conditional and subjunctive is formed by affixing -*ka* to the clause or phrase, without any change in the present or past stem of the verb, as the case may be, e.g.,

iru kama gite-ka (if you work).

ka corresponds to Tamil -*kāl* employed in the same manner. *kāl* has been traced to the base *kāl*, foot.

* See Kittel's Kannaḡa Grammar, § 295 seq.

6. The Compound Tenses: the Present Continuous, Perfect and Pluperfect are formed with the help of the various tense-forms of the substantive verb, *man* (to exist). This *man* is from an ultimate *uḡ*, a common Dravidian root:

man < *valn* < *val* < *vuḡ* < *uḡ* which last appears as a defective substantive verb in all the southern dialects.

Compare Brāhṡi *man*, Kurukh *men*, Gōṇḡi *man* and Old Tamil *mannu*, all of which are derivable from *uḡ* which means *to exist*.*

7. The negative particle *siḡ*. The Kui negative *siḡ* is from common Dravidian negative *il*:

il > *iḡ* > *ḡid* > *siḡ* > *sid*; for the change of *l* to *d*, compare Kui *pāḡu* (milk) and Southern *pālu*; Kui *viḡ* (bow) and Southern *villu* or *vil*, etc. For the production of initial dental fricative *s*, cf. Kui *sīḡu* (wisdom) from *ḡu*; *sēru* (plough) from *ḡru*, etc.

Ancient Dravidian bases with initial vowels appear in certain Kui words with initial *s* which should be traced through *s* and *y* to *ḡ*, the prothetic glide before initial palatal vowels.

8. -*d* is affixed in the Present tense to the 2nd person singular and plural only; this exclusive use of -*d* in the 2nd person is very interesting; if -*d* is to be related to *udu*, the Intermediate Dravidian demonstrative, then it is very appropriately restricted to the 2nd personal forms, *i* denoting the person speaking, *u*, the person spoken to and *a*, the 3rd person. In Kannaḡa and Telugu -*t* from *utu* has become generalised in all present tense forms. -*d* in

the present tense Kurukh forms also probably goes back to an ancient demonstrative with -*du*. There is no doubt that the explanation that it is a borrowing from Sāntali is incorrect (vide Prof. Sten Konow's article on "Muṇḡās and Drāviḡs" in the *Indian Antiquary*, Vol. IV).

9. The present participle in Kui is simply the Infinitive theme combined with the demonstrative -*i* (with adjectival force), e.g., *paṇḡai* (sending), *tiṇḡi* (eating), etc. The present participle is used only with an adverbial force. The commonly employed affixes for the theme are -*v*, -*b*, -*pp* (< *vei*); but there are a few exceptional cases where these old common Dravidian particles are omitted also.

Certain Present Participles like *diki* (falling), *miki* (bathing) etc., take an affix -*k*; compare the use of *g*, *kk* for the Present Tense of Tamil.

10. The past participle affix in Kui is described by Friend-Pereira as merely -*a*. This is hardly correct, since the past participle forms of the verb roots ending in consonants like *kok*, *lek*, *sol*, etc., all should have had an original -*i* which when followed by the enunciative -*a*, should have turned to *ya* and then to *sa*, *ja*, etc.

kok + *i* + *a* = *kokya* > *koksa* (having sat);

lek + *i* + *a* = *lekya* > *leksa* (having risen);

sol + *i* + *a* = *solya* > (having spoken);

These instances make it clear that the ancient Dravidian past affix -*i* exists in these. The absence of -*i* in verb roots ending in vowels is due to assimilation. There has been levelling of forms also, in many instances, e.g., *ḡh'ha* (having beaten), *meh'ha* (having seen) etc. Friend-Pereira's observa-

* The meaning and usage of *uḡ* as a substantive verb and as an auxiliary in the Southern dialects corresponds to that of *man*, *men*, etc., in Central Dravidian dialects in all essential respects.

tion that *-a* is the past participle affix is hardly tenable, in view of the very large number of instances where the ending *-i* or its modifications *-j* or *-s* appear: *dosa* (having slept), *tiñja* (having eaten), etc., etc.

Further, *-j*, *-s* appearing in Past Participles cannot possibly have been derived from *-t*; this would be more or less clear from the fact that *-t* or its possible modifications fail to appear in the forms of verbs with final vowels like *mū*, *sī*, etc.

11. The relative participles are two in Kui:— *-ni* for the present and *-ti* for the past; *-ni* is obviously from *-in* or *-ir*, the common Dravidian affix (which in Tamil confers the Present Tense meaning) combined with *-i* the demonstrative, e.g., Kui *vani loku* (the man that has come.) *-ti* contains the past tense affix *-t*, e.g., Kui *vatī loku* (the man that came.) Friend-Pereira's explanation that the Present relative participle, *vani* is *van* (the indeterminate base) + adjectival affix *-i*, is not correct, since *-ni* appears not only in the Present forms but in the Perfect relative participle also: *vai + ni + lōku* (the man that is coming) and *vaja + ni + lōku* (the man that has come). Though the *-n* in the intermediate or the Aorist forms is only the hiatus-filling *-n*, common in Southern Dravidian in words like *padi-(n)-aru* (sixteen); etc., I am inclined to consider that the *-n* of Kui Present Relative Participles, uniformly appearing in Affirmative and Negative forms, possesses a separate individuality and origin of its own.

12. The Gerundial Infinitive (of purpose) is formed by adding to the root an affix *bōṇḍi*. *bōṇḍi* < *voṇḍi* < *veṇḍi* (past participle of South Dravidian *veṇ*, to desire). For the

change of *e* to *o*, compare *velli* (silver) of Tamil to Tulu *bolli*, etc., etc.

The gerundial idea is also brought out with the help of *tāṅgi* as in *kāma giṇṇka tāṅgi* (for doing the work); *tāṅgi* is compounded of *atu*, the neuter demonstrative and *-gi*, the dative termination, the nasal *ṇ* being spontaneous, *atuki* > (a) *tāṅgi* > *tāṅgi*. Compare Tamil *vēlai seygiraiṇṇukku* (for doing the work) where the gerundial meaning is conferred by *adu* + *kku* (dative ending).

13. The cause-denoting affix *-aki* as in sentences like *ānu takinaki*, because I shall walk, is to be traced to *√āg*, to become. This application of *√āg* seems to be peculiar to Kui.

14. The Optative particle *-ma* as in *āra ānu gii ma*, I would like to do that, is the Dravidian emphatic enclitic *-m* with the Kui enunciative vowel *-a* [= *Δ* or *ə*].

Certain specialities of Kui Tense-Formation.

(a) *Motion Particle*: Between the verbal bases and the tense suffixes are introduced certain particles in Kui, in cases where the action of the verb directly or indirectly governs an object which is a first or second personal pronoun, singular or plural, e.g.

ira ānu nīngi sīai, I (shall) give this to you;

eanju tāra paṭi giva tāngi nāngi paṇḍa-tenju, He sent me to do his work.

sīai, instead of *sii* in the first instance, and *paṇḍatenju* instead of *paṇḍitenju* in the second show the transition particle *-a*.

-a is the transition particle for all Affirmative Tenses; but in the case of those bases which take on, in the Infinitive forms, the

reinforcing particles *-p* or *-b*, the transition particle is reinforced by *-t* or *-d* respectively.

The transition particle for all Negatives is *-ara* or *-aja*, of which the former is probably original.

These Motion Particles appear to be peculiar to Kui. Comparison, however, may be made with the vocalic infixes *-a*, *-e* in Tulu which are employed in this dialect to bring out Intensive and Iterative meanings.

The rationale of the practice is probably only the desire to introduce some kind of distinctive emphasis.

The negative transition particle of Kui- *-ara*, *-aja* is probably the Affirmative Particle *-a* plus a euphonic hiatus-filler, *r* or *j*. Compare the use of *-r* as a euphonic ending in the third Person Negative tense-forms of Brāhmi.

(b) The motion affix *-ka* (derived from Dravidian *kal*, to go) is attached to the verb-base in all important tenses so as to connect the idea of "going" with the action of the verb.

ānu mehte, I looked;
ānu mehkate, I went and looked or I went to look.

(c) The Hortative affix *-k* which is added to the Infinitive so as to form a new Hortative base (conjugated only in the Aoristic Tense) as in *tāka-k-ānu*, let me walk, etc., is to be traced to the ancient Dravidian root *kei*, to walk; The Hortative is, as will be evident from its constitution, more recent in origin than the Infinitive.

The Auxiliaries: (1) *man*, to be, supplies in Kui the place of Old Dravidian *uḷ*: doing duty as the substantive verb and as the auxiliary:—

paṇu manjenju, God exists.

ānu tākā mai (I am walking).—Pr. Cont.

I am inclined to think * that the form *man* was developed from *uḷ*, helped probably by the accelerating influence of Indian Austric *mān*.

(2) *āvu*, to become, clearly shows the Dravidian *√ā* which appears in the southern forms *āg*, *āv*, *āvuga*, etc.

(3) *duhpa* is another auxiliary verb conveying the sense of *may* or *might* and expressing the following shades of meaning (see Winfield's Grammar, pages 125, 126):

eanju vaja duhnenju, he may have come (doubt).

iru sogori tini meha duhderu, you may have seen a cart (hypothesis of a general character).

iru omba koksa duhdu, you may sit over there (polite command).

inu vriski dahmu, you go on writing (continued action).

piju delitani piyu vai duhne, rain comes in the rainy season (customary action).

What is the Dravidian base to which we could relate this form which, so far as I can see, is freely employed with these significations only in Kui among all Dravidian dialects?

The Dravidian root *tag*, to fit, to be suitable, is employed in some of the southern dialects with a hypothetical force in certain limited contexts. Kui *duh* is probably derived from this root with the voicing of the initial dental, the change of *g* to *h* (common in Kui, cf. *mānga*, mango, appearing in Kui as *māha*), and the shifting of the included vowel *a* to *u* in unaccented positions.

Compound Verbs. *Sāva*, to die; *siva*, to give; *inba*, to say; *kāva*, to refuse; and

* See my Dravidian Notes in the Indian Historical Quarterly (June, 1929.)

māha, to be able, are employed as compound-ing auxiliaries with generalised significations to express certain nuances of meaning.

This practice is in full accordance with characteristic Dravidian usage. The auxiliaries themselves are all Dravidian, and employed in other dialects for the same purpose.

Causative Verbs. The formation of causative verbs in Dravidian was effected by two different methods:

(a) The introduction of a kind of transitivity into the verbal action by the preservation of the unvoiced character of the final sounds (formative or non-formative).

(b) The employment of the affix *v* (< *rei*, to place) and its variants -*b* and -*p* to induce the causative idea.

In Kui both these seem to have coalesced in a peculiar way.

(A) The method (a) mentioned above, is operative in the large majority of instances which have final -*g*, -*ṇṇ*, -*ṇj* -*ḍ*, -*nd* or -*mb*:

<i>ṇg</i> , to be open	<i>ṇk</i> , to open;
<i>poṇga</i> , to be spilt	<i>pok</i> , to spill;
<i>aj</i> , to be frightened	<i>as</i> , to frighten;
<i>ṭṇj</i> , to appear	<i>ṭṇs</i> , to show;
<i>aḍ</i> , to be joined	<i>aḍ</i> , to join;
<i>kāṇḍ</i> , to be hot	<i>kās</i> , to heat;
<i>kamba</i> , to be burned	<i>kappa</i> , to scorch.

In these and all other causative forms, the reinforcing affix -*p* is invariably added.

It might be asked if -*p* here is not the real causative affix and if its assimilative influence may not have converted the sonants to surds in the above cases. But the following facts strongly militate against any such probability: (a) the existence in Old Dra-

vidian (as reflected widely in Tamil and less widely in the other southern dialects) and in Kui also (*vide* Friend-Pereira's Grammar, pages 17, 31) of the preservation of the unvoiced character of certain sounds, especially surds* under the influence of stress,

and (b) the fact that -*p* appearing in the causative verbs does *not* form an essential part of the causative base, inasmuch as it appears *only* in the *Infinitives* and *Present Participle* forms.

(B) But that a true causal-forming affix -*p* was also active in some instances is shown by the causatives formed from bases with final reinforcing -*v*:

<i>dī</i> (v), to fall	<i>dīp</i> , to fell,
<i>sā</i> (v), to die	<i>sāp</i> , to kill, etc.

In these cases, it will be noted that while the -*v* of the non-causal is only a reinforcing affix, the -*p* of the causals *forms an essential part of the new base*.

(C) In the following instances, I am inclined to think that the old causal affix -*t* should have been active:

<i>in</i> , to say	<i>is</i> , to cause to say;
<i>tin</i> , to eat	<i>tis</i> , to feed;
<i>un</i> , to drink	<i>ut</i> , to cause to drink, etc.

* Pater W. Schmidt is of opinion (*Die Sprachfamilien und Sprachenkreise der Erde*) that in all languages generally, surds should have originated primarily, the sonants being developed at a later stage. Dravidian indicates largely the transition stage.

CO-OPERATION AND EDUCATION.*

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NO branch of human activity is so much dependent on the education of the masses as the development of co-operation and no endeavour of ours so much widens the scope of education as co-operation. It would therefore be instructive to consider in what manner are the interests of co-operation and education bound up together and how. The two movements mutually help each other for the advancement of both.

DEMOCRATIC MOVEMENT.

The co-operative movement is a highly democratic one because the societies formed in that organisation consist of members drawn to it voluntarily for the purpose of transacting business in which all of them are expected to participate on equal terms for the benefit of one another, high or low, rich or poor, claiming this or that religious faith. The capital required for conducting business in a society is collected by shares of low value which may be paid in instalments of paltry sums extending over 20 or 30 months. The poor folk can exercise a little economy in their daily expenditure and lay by a few annas a month for paying up the instalments. The movement therefore is as much an education in thrift as in business. It teaches people to combine together in a certain cause and work in confidence of one another. Many a successfully worked society has taught people self-help, mutual trust, art of business, methods of administration and commercial

* A Lecture delivered on the International Co-operators' Day (5th July 1929) at Tumkur.

morality. Viewed from a larger standpoint, the co-operative movement constitutes education for a fuller life.

NEED FOR LITERACY.

Literacy is essential for every individual who wishes to benefit himself through the agency of co-operation. The co-operators have recognised this basic need and therefore much propaganda is being conducted by them among the masses in favour of education as much of children as of adults. During the course of their lectures, methods of improving social and economic conditions through co-operation are explained and the interest of the people secured in promoting their welfare. The illiterate folk are made to feel that they are the poorer for not taking advantage of the facilities afforded to them to seek education. They realise that being illiterates they are incapacitated from taking any prominent share in the work of the societies. A feeling is gradually becoming prevalent in the relatively backward rural parts that people should not neglect the education of their children. The desire has not materialised in many homes; but the trend of events is in the direction of progress. Villagers which used to send ten per cent. of the children to school a decade back are now sending twenty to thirty per cent. Undoubtedly much leeway has yet to be made in rural education. Seventy to eighty per cent. of the rural children of school-going age have to be enrolled in schools. Workers in the field of co-operation have a vast field for their activities and energies. Will they exert?

PROPAGANDA FOR EDUCATION.

Those who have gauged the potentialities of the co-operative movement, especially the Governments of the diverse States and Prov-

inces in India, emphasise the need for further developing it so as to make it an effective instrument for securing the social and economic uplift of the middle and the poorer classes. Let us consider how far we can push it on. For purposes of participating in this organisation at the present moment, we must consider only the male population and that above the age of 20 years. They form about 16 lakhs in Mysore. But all of them are not literate. About 17 per cent. of the males above twenty years of age are literate. If we expect every member to take some intelligent interest in the work, we can count upon the participation of only the literate ones. Calculation shows that they are nearly two and three-fourths lakhs. Now we have a membership of just one lakh in the existing co-operative societies. Reckoning all the members to be males, which is not very wide of the mark, we can bring a lakh and three-fourths more of the male population in the movement in Mysore. This is the work lying immediately ahead of our co-operators. They must accomplish two things. A whole-hearted attempt must be made to see that the poorly educated among them do not lapse into illiteracy for want of facilities and opportunities to read and write. Secondly they must be persuaded gradually to enter our fold. All this entails propaganda and propaganda means workers. Here is a unique opportunity for official and non-official agencies to co-operate and enlarge the field of co-operation. The duties and responsibilities of membership of a co-operative society are far beyond the comprehension of the ill-educated. By means of co-operative conferences, conducted as much in villages as in towns with the idea of educating the less advanced people in the true principles of co-operation, by instituting reading rooms and

libraries under the supervision of the municipalities, village panchayats, and co-operative agencies, on a far vaster scale than now, by conducting lectures through the agency of paid and honorary propagandists and by the house-to-house distribution of vernacular pamphlets and reports on the advantages and achievements of the movement, much progress can be effected.

ADULT EDUCATION.

Educational statistics bring us face to face with an appalling state of affairs in our country whenever we think of undertaking any scheme for the economic amelioration of the masses. Even if we should be able to secure the advantages of co-operation to two and three-fourths lakhs of the literate adult male population—a task stupendous in itself—the question remains, how we can attempt to offer the advantages of the movement to the remaining thirteen and a quarter lakhs of thoroughly illiterate people. A well-planned and broad-based system of adult education is an indispensable precedent. But experience shows that there is colossal apathy on the part of our adult population to attend schools established solely for them. There may be a little enthusiasm here and there, but there is no widespread, continuous and earnest interest. Hundreds of night schools had to be closed down during the last few years on account of paucity of scholars. The complaint is heard that even the few existing ones are not made much use of and there may soon be proposals to close a large proportion of them also. The situation is far from satisfactory. I would therefore appeal to all the lovers and patriots of the State that they may form what may be called "Rural Welfare Associations" and carry on an intensive campaign in favour of education of the

adults. These associations may be started either by co-operative societies or by co-operative institutes as their side activities. In Bombay a number of adult night schools are managed by the Central Co-operative Institute. We must undertake a similar activity here. The duty of workers in this movement is not light. Every person who is connected with the movement either officially or in any honorary capacity would do well to co-operate with the educational authorities, ascertain where adult night schools have been established by them, visit them occasionally to ascertain the progress achieved and deliver lectures to the people of the locality how education will enable them to perceive the depth of their present low economic condition and will by slow degrees enable them to bring about a better order of society in every way.

WOMEN'S EDUCATION.

Co-operators cannot shut their eyes to a still more difficult question, namely, female education. It is our experience that where the mothers are literate, education of children is cared for much better. Educational statistics prove that communities in which female education has progress show considerable advancement in the education of males as well. The average standard of life is found to be higher in those communities. In Mysore the Government have generously founded a large number of educational institutions from the primary to the University grades exclusively for women's education, but large masses of the population have not taken advantage of them. Taking the female population above the age of 5, only 2.2 per cent. are literate. Of the females above the age of 20 years, 1.9 per cent. are literate. The evil of illiteracy among women must be combated even more vigorously than that among men.

Unless it is eradicated, we cannot advance either socially or economically. Social customs and religious prejudices, apathy and hostile public opinion, especially in the rural parts, stand in the way. Co-operators must carry on immense propaganda mostly in the rural areas and secure large attendance of girls in the schools. Now-a-days women are convening conferences of their own to further their cause. The women of even one of the most orthodox communities, namely the Nambudri Brahmans of Malabar, recently held a conference and demanded their share in the activities of the nation. The future appears to be hopeful. But workers are needed to consolidate efforts and direct energies into fruitful channels.

CO-OPERATIVE EDUCATION.

Education on co-operative principles is required even for those educated persons who are now working in the co-operative movement. In the West, co-operative colleges have been founded by co-operative unions to impart instruction in this subject and to inspire students for service in the movement and to undertake investigations for the further development of co-operative work with a view to solving many social and economic problems. Co-operative organisations remit to these seats of learning a portion of their profits for their maintenance. In India, we are only on the threshold of the movement. So far as I am aware, no University has endowed even a chair for this subject. Co-operative institutes in various provinces have been publishing journals on co-operation, and offering some instruction not only to prospective workers but also to those who are actually working in the line. In our State too, the Co-operative Propagandist Institute, through its branch at

Mysore, has been conducting training classes and the Registrar has spoken well of their effort. Co-operative education has to advance very much in our country if new lines of work are to be undertaken. With the advancement of general education, this branch is bound to make progress.

VOCATIONAL EDUCATION ON CO-OPERATIVE BASIS.

One more educational activity which properly belongs to the domain of the co-operative movement is the vocational education of the masses on a co-operative basis. It is a new eld in India ; but it is full of vast potentialities in the vocational regeneration of the country. An experiment may be tried in a pretty large village a few miles from this town, where we can find a large number of boys having finished the primary course have dropped off from school for good. In such a place, an agricultural farm may be opened on a co-operative basis and vocational education in agriculture may be imparted to such boys,

with a promise that a portion of the produce will be distributed among them for their labour. A spinning and weaving section may have to be opened to engage them during times when agricultural operations may not be conducted. A dairy farm may also be opened. The entire work of the school including the maintenance of accounts, selling the produce, etc., will have to be performed by the boys under the instructions of teachers specially selected for the purpose. If a few enlightened citizens of Tumkur would undertake to launch the scheme on a very modest scale to start with, they would contribute much towards the advancement of co-operative vocational education. The District Board, the Co-operative Department and the Educational authorities may be requested to help in the experiment by offering some grants for the maintenance of teachers at the commencement. As the scheme progresses, it is likely that it may be worked at a profit.

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ANSWERS TO SUGGESTED QUESTIONNAIRE ON "IDEALS OF SECONDARY EDUCATION"

By

Mr. C. KRISHNA AYYAR, B.A., L.T.,
Headmaster, Municipal High School, Paimi.

1. No.

The present system of education is defective in very many ways. Any system of education must lead to the harmonious development of the physical, mental and moral powers in the individual. As it is, the present system does not allow full growth to the body or the mind. There is a farce of a physical training in the secondary school curriculum. Our games and sports necessarily drive us to incur additional expenditure without an adequate return in the shape of bodily strength or virtues as a result of physical exercise. In most of our schools the play-ground is a luxury. When schools get on with scanty accommodation, it is really a strange thing that we should think of play-grounds and expert drill-masters who command the confidence of students. On the side of culture the progress may also be said to be 'nil'; for we find our present day S. S. L. C. holders unable to get on well even in the form filling departments of the Government. The cost of this kind of education has increased by leaps and bounds without a corresponding return in the shape of ability or moral well-being of the student. Further, this system of education does not even ensure everyone a living, though every parent has to send his boy to this costly but useless 'English School' in the hope perhaps that he may become a member of the coveted

I.C.S. Any perfect system of education must count on the shaping of character of the students. In spite of the attempts of the Department to make the students get some sort of moral training, there is not a perceptible improvement in the conduct of the students. Discipline in schools is not what it ought to be. This is due to many causes. The most important is the apathy of everybody to treat the teacher with the respect that his position demands. But we must honestly accept that discipline in schools managed by Christian Missions is better than in other schools whether they are Committee-managed schools or Council-managed schools or Board schools. In 'mission schools' the head of the institution is not interfered with in school matters, such as the framing of the time-table, the choice of text-books and the annual promotions of students. The Headmaster there has to answer his conscience and the European or the American Manager who in most cases seems to be very reasonable and does not have peculiar likes and dislikes characteristic of Secretaries, or Presidents or Chairmen. In Committee-or Council-managed schools the Headmaster has to satisfy everybody and thus finally drift the institution he manages into a whirlpool of local politics. The teacher becomes a non-entity in the management of the class and the imparting of knowledge. The students dominate over teachers. They drift on like an army without a leader. It is the status of the teacher that matters very much in the regular working of the institution. Of all institutions our secondary schools are the most neglected, ill-equipped and ill-managed. This is really the Cinderella of the department of education. So our system is defective in its aim, scope and practical utility.

* The Questionnaire appears on page 818 of the 15th December 1928 issue of "The South Indian Teacher" (Vol. I, No. 12.)

2 (a) This question is a very difficult one to answer. The teachers are for the present recruited from the best available community. The political and present communal controversy regarding entry into Public Services has in a way done some good to the teaching world, though even here some places of prominence have been given to less efficient men. But, on the whole, comparing with other departments the education in the schools has been entrusted to a body of sincere and devoted teachers. If the teacher is kept above want and is given a status, certainly he will in no way be inferior in ability or knowledge to any other group of people belonging to other professions. The least pay of a secondary school teacher must be Rs. 60 per mensem. This is the minimum wage under present conditions. Further, most of our teachers are overworked and have no opportunities to improve their knowledge. Most of the High School libraries are ill-equipped. Though my suggestion may seem strange, I would suggest the formation on approved lines of a Council of Registered Teachers for South India who may be allowed to coach a pupil privately for the School Final course. There are some backward villages where these registered teachers can establish their Shantinekatans. The villages of India afford plenty of natural facilities for such schools. These teachers will be proper guardians of the boy in every way.

2 (b) For the present pay and prospects, the very best men could not at all be had. It is a pity that the very best of men rush to the Law College because they perhaps think that in India there will be plenty of litigation for many years to come. The teachers' profession will attract the best men if the improvements suggested in my answer to 2 (a) are carried out.

3 (a) No; not at all.

3 (b) No.

3 (c) No class must consist of more than 20 pupils if sufficient individual attention is to be paid.

3 (d) The present staff of teachers must be doubled in each school.

As for the finance it is the Government that must come to the rescue. If the Government wills, this question can be solved in no time. Before considering the question of equipping schools, I would suggest that the practice of squatting on the floor must be seriously tried and furniture must be reduced to a minimum. Public libraries in all places will be valuable helps to teachers if properly equipped. Libraries like the Madras University Library, Connemara Library, Saraswathi Mahal Library and Victoria Edward Library, Madura, are very useful to the teachers besides the public. Every school in its Budget must set apart at least Rs. 500 for libraries and at least Rs. 500 for laboratories and other aids to teaching. This should be insisted on by the Department. Equipment grants must be given in advance so as to facilitate timely purchase of these things. District Educational Officers must object only to political books of a revolutionary character or books that contain obscene literature. The District Guild meetings should invariably be attended by Headmasters and one elected member of the staff when there must be a consultative talk on the latest books of importance that may be useful to schools. The Secretary of the Guild must be supplied with specimens for review and he must be the convener for the library section of every Guild meeting. This work might, if possible, be undertaken by a Joint Committee of the District Guild and the proposed Secondary

Education Boards. The Secretary must circulate important books for review to the Headmasters of schools. The annual meetings of the Guild must arrange for educational exhibitions and meetings must last for a week especially during the summer holidays. Here also the Guild must seek the co-operation of the proposed Secondary Education Board. These exhibitions will lead a great way to the advancement of the research spirit that is very much wanting in the teachers now. The fauna and flora of every locality have to be carefully studied by the teachers and any object of interest in any locality might be exhibited. We have opportunities only occasionally to witness such exhibitions. If I remember correctly, Madura attempted an Industrial Exhibition some 18 or 20 years back in the Thirumal Naick's palace and another in the Victoria Edward Hall, Madura. If incentive for such things should be continuous, these exhibitions must be arranged annually and should get the support of the Co-operative, Agricultural and Industrial Departments. Every school must necessarily contribute to the success of these exhibitions. Prizes may be given so as to encourage the best schools. Finally, staffing and equipping must be made a condition of recognition of schools. It is a matter for regret that very rarely we come across a Sir Annamalai or a Pethachi who could endow secondary schools. Perhaps we are in the dawn of a new era when we could expect philanthropic gentlemen to copy great donors of the type of a Carnegie or a Rockefeller. Only when the State and the monied class come to the rescue of these schools, secondary education can achieve something by way of improving these schools in the matter of staff and equipment.

4 (a) Those who complete the S. S. L. C. course must be completely equipped for life. India is mainly an agricultural country. As such, improved methods of agriculture must be resorted to. Further our country could not be said to be the isolated India of old, when modern ways of living could not have been thought of. As a result of the contact of our country with the West, our wants have increased. Means of locomotion are not the old country carts alone but we have now motor-cars, tram-cars and railway carriages, besides aeroplanes. The necessary industries that have, of late, come into prominence in the world must be learnt by our people also. Paper-making, pencil-making, soap-making and the making of pins, nibs, buttons may be attempted by our S. S. L. C. holders as an optional subject. Technical and commercial subjects like short-hand, type-writing, commercial practice and banking even now are optional subjects. While it is possible for America to advance in industries, I do not know why such industrial advance could not be thought of in a vast country like India. So I would suggest a scheme of studies that could in a way solve the want of the present curriculum. The present arrangement of elementary schools, secondary schools and colleges is overlapping in some cases. There should not be any difference between elementary schools and primary schools. If elementary education should become free and compulsory, the primary classes of secondary schools also should have the benefit of free education. Every middle school must have the first 5 classes and the first 4 forms. There must be a middle school public examination at the end of the 4th form course. The subjects must be English, Elementary Mathematics, Indian History and

Indian Geography and Elementary Science and Hygiene. The boys must have drill period every day. The schools that contain 5th and 6th forms must prepare the pupils for the University or for some profession.

4 (b) Secondary education besides preparing our boys for a University course must equip them to become intelligent farmers, expert weavers, business-like shop-keepers, bakers and help those who desire to learn petty industries such as pencil and paper-making. The final S. S. L. C. course must consist of the following compulsory subjects:—

1. English.
2. Tamil or any other vernacular.
3. Elementary Mathematics.
4. Elementary Science and Hygiene.
5. Indian History from earliest to the present times.
6. The World Geography in outline with a detailed study of India.
7. Physical training and moral instruction.
8. An optional to fit the student for a University course or for some calling.

Even now we meet with S. S. L. C. men as traders and intelligent farmers taking to modern methods.

4 (c) After the middle school course every school must have at least 4 optionals helping pupils to choose a University course, agriculture, banking, commerce and industry, or must prepare pupils for the teachers' training school, medical school or the engineering school.

It might be possible only for High Schools in the head-quarters of a taluk to provide for such subjects. Any of our present High

Schools which could not be more than 250, strong may with advantage be reduced to the status of middle schools.

Accommodation, library and laboratory equipment must be certified by the District Educational Officer of the district to be enough before permission is given to send up pupils for S. S. L. C. public examination. Every secondary school must have some vocational or technical subject as optionals—such courses need not be tacked on to general education. Technical, vocational and trade schools may be established in district headquarters and these schools must be started by Government in districts where such schools do not exist now. Agricultural schools must be started at the rate of two for each district to begin with.

5 (a) Yes. This object has not at all been achieved. First of all the proposed Secondary Education Boards may be entrusted with the conduct of the middle school examination. There must also be a separate S. S. L. C. Board for the Tamil Nadu, British Malabar and South Canara. Examinations are a necessity but this must be limited to smaller areas. To dispense with these examinations we must wait for a time when our teachers could be expected to understand the real responsibilities of the profession and when they would be respected as 'Gurus' in the real sense of the term. The feeling that the teacher is a servant must go. Further their opinion would count for anything, only when the society around them gives them a status and rank. The tone of a school must be judged from the reputation that it has in the locality and not from the percentage of passes in the S. S. L. C. examination. I am not for dispensing with the school record completely. I prefer the term certificate system wherein

all the concerned masters and the Headmaster must make entries with regard to attendance and conduct. Want of attendance should not be condoned under any circumstance. A boy with a bad school record should not be allowed to receive the certificate of a pass. This should contain the remarks of the Physical Director of the school. The school record must not be a one man business. The Headmaster must give the finishing stroke to the certificate. These certificates are really valuable if the person to whom the student applies for a job pays attention to these entries.

5 (b) The present Board is very unwieldy. The question papers should not be printed at Madras. The Proprietor of the Press must be completely responsible for the sorting of question papers to each centre. The chief examiners concerned must send their question papers direct to the press. If all these things are not possible, this work along with the printing of eligible lists may be entrusted to the respective Registrars of the Universities. Splitting up of the Board into (1) Andhra, (2) Tamil, (3) Malayalam and Canarese Boards may ease these difficulties. The respective Boards may be partly elected and partly nominated. All the Headmasters may elect one representative, all the L. T.'s another, all the managements one representative, 3 D. E. O.'s may be nominated. There must be a woman representative. The President of the Board may be elected from the seven members. The examinations may with advantage be conducted during the month of December and thus the old order of things must be restored at least with regard to the time and month of the examination.

6 (a) This is not at all possible. The present system of instruction in most schools

is through both these media. If it is difficult to explain in English we go to Tamil. Tamil or any other vernacular cannot be so easily substituted as a medium of examination. The court language must change. Even then we cannot dispense with English as an all-India language. It is rather too early to think of Hindi as a substitute for English.

6 (b) In case Tamil is made the medium of teaching and examination pupils entrusted into colleges may not have the necessary command of English.

6 (c) Students who want to enter a University course might be required a higher minimum in English together with the necessity of answering a special paper in English literature.

6 (d) I think there ought to be a distinction between these two things.

7 (a) Study of the vernacular could be encouraged only if more text-books on science subjects are written in Tamil and the study of non-language subjects in the vernacular is insisted on as a condition of aid and recognition by the Department.

To answer in English or Tamil must be left to the option of the examinee in that case. The present option with regard to the use of the vernacular medium is ineffective. Bilingualism is the only practical way of learning anything in a foreign tongue. Direct method of teaching English ends in a farce in extreme cases. The word for word translation method of old is another extreme. Especially in English it would be easy to begin Indian stories. In early classes like Forms II or I the story of Prahlada must appeal to Indian children better than the story of Alfred and the burnt cakes.

8 (a) *Physical Improvement*.—Our secondary schools must give plenty of facilities

for practical work in all subjects except English and Tamil. This will really help in making the boys to think and learn and not cram published notes for examinations. The library work of the boys must improve a great deal. There must be a qualified librarian who ought to be able to know the quality of the books that he distributes to the boys and further he must at least be a graduate of sufficient ability. He must be chosen from persons who have had experience of college debating societies and Literary Unions. Boys' Associations must be made a compulsory feature of every school wherein they must talk, debate and discuss various topics of a useful nature. These boys must be trained in social habits and virtues of a club life must be instilled into the minds of the youngsters. Subscriptions or fees for running these unions must be collected along with the school fees. The collected amount must be set apart and deposited in a Bank to be utilised for the purposes of the Union. The Librarian must invariably be the Vice-President of the Union. It would be a very nice thing if the Librarian could also be the Physical Director of the school, for he could attend to the physical and mental improvement of the pupils. Residential High Schools where the teacher and the pupil will live like father and son can solve the question of moral training in a fairly satisfactory manner. As it is, parental co-operation will go a great way in improving the character of boys. Parents must confidentially make enquiries of teachers and resolve upon a plan of improvement in consultation with teachers. The moral instruction syllabus recently introduced in schools if properly followed and if lessons are given accompanied by illustrations from Hindu Puranas or Biblical stories

or from Islamic scriptures, we can hope for some improvement in the character of the boys. Boys must be made to feel that they go to school not only for passing the S.S.L.C. examination and Government service but for real progress, physically, mentally and morally. The Scout movement is a valuable help in this direction.

8 (b) Health of the boys in schools is very shabby and we daily witness in our class-rooms narrow-chested, pale and sometimes hunch-backed youths. The health of the boys is hopeless when they reach the V and VI Forms. Most of our students suffer from vices of bad association.

8 (c) I do not think there is any great strain in the present school final course, but I would mention that the curriculum in English might be lightened and thus making room for some more periods of drill work. In the present system there are certain defects concerning the physical education of boys which must be remedied. The present school hours must be changed. No school must work between 11-30 A.M. and 2-30 P.M. No school which has no play-ground of its own must be recognised. Schools must be given full grants for the purchase of sites for play-grounds.

Town schools are great sinners in this respect. Most of these schools do not have adequate facilities for conducting sports or games. Indian games which are not at all costly must be encouraged. Every day there must be a physical instruction period. High School teachers who desire to undergo additional physical training must be given grants so as to help these people in the matter of teaching drill and games.

9. The Government does not pay sufficient attention to secondary education. We can-

not separate our schools like water-tight compartments. Primary Schools act as feeders to Secondary Schools and the Secondary Schools as feeders to Colleges. The real aim in elementary education must be to banish illiteracy from the land but the present policy of multiplying Inspectors without increasing the number of schools and teachers qualified to impart useful instruction results in wastage. Our colleges multiply the number of discontented and unemployed graduates. Universities must be real centres of learning like Nalanda or Takshasila of old. They should attempt research work. All people hope a great deal from the Annamalai University. Perhaps it is going to be its special luck to produce a Sir P. C. Ray or a J. C. Bose. The step-motherly treatment accorded to our secondary schools will kill us in the long run as a nation. Just as the middle class people form the backbone of every country secondary schools are the real nurseries of the State.

Some of the suggestions noted may seem highly impractical but if education should be on right lines it must be reformed thoroughly and there should be no half-hearted attempt. I hope this year's Conference will give a true and right lead for the affiliated associations to follow. As a first step in the reform of secondary education, let the Conference try to pass resolutions which will, if carried out, make the teacher self-respecting and the master of his own house. In any scheme of merit the teacher who is to work it must be in first person cared for. Without education status cannot be any meaning in self-government. I close these answers with a request that the teachers who meet in Conference very often should think more about their organisation and their duties before thinking of anything else. Slowly but surely the

teacher will have his place in the new order of things. As teachers we ought not to despair of our low position in life which is the result of a wanton neglect on the part of the people to know about the real life-giver of the country. I have heard it said that the downfall of the Roman Empire was due to the entrusting of children to the care of slaves. Let not such a remark be repeated in our case also. Our country has always been famous for its traditional respect for Gurus. I pray God that the Government and the people may be given sufficient wisdom to guide the destinies of the country in a proper way so as to make the teacher an important member of the State.

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THE VILLAGE SCHOOL AS A FACTOR IN RURAL RECONSTRUCTION.

By

Mr. B. DASAPPA, B.A., B.L.,
Asst. Inspector of Education, Shimoga Range.

AT the present moment, every mind is occupied with the problem of Rural Reconstruction. "Back to the village" has become the slogan of all parties in India irrespective of their creed as Swarajists, Independents or Moderates. All are agreed that the only solution for the economic, social and political backwardness of India lies in a proper readjustment of village life.

The village has been the administrative unit from time immemorial and the autonomy of the village has been lost since the advent of the British. History tells us that in olden days each village lived, thought and acted as a single body politic and the prosperity of the country-side was in no small measure due to this community of interest. Even during medieval India, the village as a corporate body was responsible for all the activities that constitute a government such as collection of revenue, judiciary, etc. But to-day what is the condition of the village? It has become but an appendage of big towns. But for the supply of the staple food-grains from the villages our towns would be starved in no time. 75% of the food stuffs grown in villages find their way to the big towns, leaving their villagers half-starved.

Another great tragedy of modern life is that all the pushful young men migrate to towns, leaving the villages to be developed by the illiterate and the conservative stay-at-homes. This immigration to cities must be checked. Before suggesting the remedies, we

may pause awhile to consider the causes that lie at the bottom of this modern spirit. The question is not only an economic but also a social and moral one. People flock into towns not only for finding a livelihood but also because they have none of the amenities of life such as society, recreations, etc., in villages. Many of the younger generation flock into towns for their education. Unless and until the village becomes once again self-contained, their immigration is bound to go on.

The following are some of the ways in which village life may be improved so that the villagers may lead a "fuller life":—

1. Starting of reading rooms, libraries, itinerating cinemas and agricultural exhibitions. The old Puranic stories should be dramatised and popularised in the rural parts. At present the villagers have no ideals in life. Their outlook on life must be changed.

2. Subsidiary occupations, cottage industries such as weaving, sericulture, bee-rearing, carpentry, rattan work, etc., should be revived and facilities created for the marketing of the finished products. Much of the factious spirit, so prevalent in the rural parts, is due to want of occupation and higher ideals in life.

3. Civic consciousness should be aroused. At present the villagers take little interest in the welfare of the village and less in their children. It matters little to them if children die in hundreds of malnutrition, small-pox or other dire diseases, so long as their crops and cattle are all right. All this should change. They should be brought to think that the village is theirs and the only solution is the restoration of the village autonomy.

Now we may consider wherein the part of the village school comes in this programme of

ARNOLD SOMMERFELD: HIS LIFE, WORK AND AN IMPRES- SION OF HIS RECENT VISIT TO INDIA

By

Dr. B. DASANNACHARYA, M.A. (Madras);
Ph. D. (Munich); F. Inst. P. (London.)

ural reconstruction. The village school could become the community centre and the fountain of light and leading. The school library should be made available to the villagers and the local teachers' association is the best vehicle for disseminating progressive ideas. The meetings of the association should be held in different villages and topics of general interest such as improvement of agriculture, child-welfare, women's education, etc., should be discussed along with other purely educational topics. The villagers should be encouraged to take part in the discussions. The subjects of papers to be read in the meeting should be localised, i.e., should deal with local problems.

The adult school is again another factor in rural reconstruction. The instruction should be visualised by means of magic lanterns. Newspaper reading should be taught as a part and parcel of adult education.

These are some of the ways in which the village school can play a no mean part in realising the ambition of Government in the field of Rural reconstruction.

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THE 'SCHOLAR,' Palghat.

Arnold Sommerfeld, Professor for Theoretical Physics at the University of Munich in Germany, is one of the world's leading physicists. Though in his 60th year, he is strong, healthy and intensely active. Nearly all the Universities in India extended to him invitations to lecture on problems of physics, which engage the attention of physicists to-day all the world over and in which, as is well-known, Prof. Sommerfeld himself has played, directly or indirectly, a prominent part. Directly, by his own works and discoveries, and indirectly, by the efforts of the pupils whom his brilliant personality and genial temperament had attracted and inspired to work. To name only a few, Prof. Kratzer (Munster), Prof. Epstein (California), Prof. Ewald (Stuttgart), Prof. Herzfeld (Baltimore), Prof. Pauli and Prof. Wentzel at Zurich, Prof. Werner Heisenberg, the illustrious originator of the Matrix Mechanics (Leipzig) and Prof. P. Debye (Leipzig).

We are interested in Prof. Sommerfeld's impressions of what he has seen in India, and we are interested in Prof. Sommerfeld himself and his achievements not merely because they add to the importance and value of his impressions but because they may well serve as a model for any whose ambition it may be to serve humanity in the field of scientific pursuits. For the following brief sketch of Sommerfeld's life and works,

I am indebted to Prof. Ewald of the Technische Hochschule at Stuttgart.

Sommerfeld was born on the 5th of December 1868 in Königsberg (also the birth-place of Kant), East Prussia. Attended school there and began to study Mathematics and Physics at the University of Königsberg. After taking the degree of Doctor of Philosophy there (Thesis:—On the development of a given function into a series of arbitrary functions, especially Bessel-Functions) he was for several years assistant to the famous Mathematician, the late Felix Klein in Göttingen. Here he wrote together with Klein the standard work on the theory of tops, a work comprising in its four volumes a variety of subjects of mathematical, mechanical, astronomical and technical interest.

After a short period of Professorship in Mathematics at the Mining School at Clausthal, he was appointed Professor of Technical Mathematics at the Technische Hochschule at Aachen (Aix-la-Chapelle) in 1903. His vivid interest in technical problems, together with his great mathematical ability, resulted in a number of technical papers, on lubrication, on proper foundation for a motor and on effects of mechanical resonance which are still highly estimated by the engineer. At its centenary in 1924, the Technische Hochschule conferred on him the honorary degree of Doctor of Engineering.

In 1906, Sommerfeld was appointed to the chair of Mathematical Physics at the University of Munich to succeed L. Boltzmann of the Kinetic Theory fame. Prof. W. C. Roentgen, the well-known discoverer of the X-rays (now designated Roentgen Rays), was his colleague for Experimental Physics. In

Munich, Sommerfeld established a flourishing school of theoretical physics of ever-increasing renown. Physicists from all parts of Germany and of the world go there to get a profound training in physics and the mathematical methods of attacking the problems. The variety of subjects treated by Sommerfeld and his scholars cover nearly the whole range of physics except perhaps thermodynamics. A number of papers deal with the fundamental question of hydro-dynamics, namely, how the turbulent motion of the fluids originates; others with the question of wireless telegraphy: the bending of waves round the earth and the efficiency of Marconi's horizontal antennae for producing directed telegraphy. The skin effects of alternating currents in casts and the propagation of waves are some of the electrical problems. Sommerfeld was in Göttingen days, the first to give an exact theory of diffraction of light by a straight edge, Fresnel's and Kirchhoff's method being only approximate. The application of the new method was taken up by Sommerfeld in a number of papers when he came over to Munich; one of them resulted in the evaluation for the first time, in a reliable way, of the wave length of Roentgen Rays from the faint diffraction bands produced by a slit (1911). Another optical problem was the determination of the double diffraction bands produced by the allotropic arrangement of the atoms in a crystal. The two last-mentioned papers were the source for the famous discovery of the diffraction of Roentgen Rays by crystals made by Von Laue, Friedrich and Knipping, in 1912 in the laboratory of Sommerfeld. This was followed by a large number of experimental and theoretical papers on the same subject. When in 1905, Einstein proposed the principle of

relativity, Sommerfeld eagerly took it up both in his lectures and in a number of papers.

All papers mentioned above pertain to classical physics. The rising problems of quantum physics did not fail to attract Sommerfeld. His great achievement in this field dates from 1915 when he expanded Bohr's theory of atomic orbits to include several degrees of freedom and by this explained the so-called fine-structure of the hydrogen spectrum. His other great results may be briefly enumerated by mentioning his theory of the Zeeman effect, the systematics of Roentgen line-spectra and especially the development of modern systematic nomenclature of complicated optical line-spectra. This latter has enabled his pupils to disentangle such complicated spectra as those of iron or manganese with their many thousands of lines.

The fruit of this most active period of Sommerfeld's life, and this notwithstanding the War, was collected in Sommerfeld's famous book, *Atombau und Spectrallinien*, of which four German, one English and one French edition have already appeared, and to which Sommerfeld has just added an appendix in the form of a booklet, covering the latest development, namely, wave and quantum mechanics.

The latest published achievement of Sommerfeld is his theory of electrical conductivity in metals which is based on new quantum statistics of the Italian physicist Fermi. By this theory one of the outstanding problems of the physical properties of matter has been brought to a satisfactory and unexpected solution.

During his voyage from India to America, in January of this year, and at the moment of

writing in the press, Sommerfeld achieved what has till now been considered impossible, namely, a successful explanation of the production of Roentgen Rays from considerations of wave theory.

And now to the impressions which his Indian tour has produced on him.

In an article of 3500 words in a German periodical called "Zeitwende" (to appear in its March or April issue, at the moment of writing available in proof only) Sommerfeld says in his opening paragraph:—

"That wonderland India, rising to phantastic heights with its buildings, its religious and philosophic systems, draws any westerner with irresistible force. Me it enticed all the more, since in that primeval land of culture powerful shoots of modern physics have grown in the years just gone by, by which the Indian investigations enter suddenly into the same meritorious competition side by side with her European and American sisters. No physical discovery of the last few years caused so much sensation and brought forth such admirable collaboration in the whole world, as the spectroscopic effect found by Prof. C. V. Raman in Calcutta, and worked out by him and Dr. Krishnan in a very exemplary manner; and no discovery in the field of astrophysics has proved itself so fruitful in the understanding of the constitution of the stars as the theory established by Meghnad Saha, now professor in Allahabad."

He describes his journey *via* Colombo, Madura, Trichinopoly, at each of which he broke his journey to see round the famous places. At Trichinopoly he notes down the first indication of the political storm raging round the Simon Commission which was touring round there. Everywhere on the

walls and gateway of Trichinopoly he found posters marked "Go Home Simon."

He lectured at Madras and Bangalore. At Bangalore he speaks of his reception by the Diwan, "a highly intelligent Muhammadan." The question of the Diwan, whether investigations on the structure of matter would help to solve the problem of the soul, seems to the professor to be characteristic of the Oriental mind and he contrasts it with what an American would have asked, namely, whether they would help him to make money or to improve the living of mankind. This well-meant observation, which, perhaps is a gentle criticism as well, should be helpful and should not be misunderstood.

At Calcutta he delivered several lectures at the University including a public lecture. "After every lecture of mine in Calcutta there was lively discussion; Raman and his students stand quite at the height of modern science."

In Benares he meets "the founder and Vice-Chancellor of the University, a highly intelligent orthodox Brahmin, Malaviya, a friend of Gandhi. He made with me the famous Ganges trip. The Vice-Chancellor spoke during the trip of Goethe, Nietzsche and Haeckel. According to him and the opinion of the Brahmanas, there must be, in every corn of matter, a corn of Brahma, i.e., intelligence (Gaist)."

Sarnath near Benares reminds the Professor of Wittenberg near Rome. While passing among the ruins of Sarnath his thoughts take him to the ruins of Pompei. In the Museum there he sees "hundreds of Buddha statues, with faces of most of them destroyed by Muhammadan fanaticism, 'thou shalt not make for thee picture nor semblance.' To the fury of Muhammadan

destruction fell in North India not only human and divine figures, not only the ancient Hindu temples, but also the heads of statues of animals. The Muhammadan art confined itself to virtuous reproduction of bodyless lines and plant models of the 'arabesque'."

The religion of Buddha seems to have made a great impression on the Professor. "Buddha enjoined a return to nature and to simple teachings, what amounted to a real reformation. He preached pure ethics, not merely general love of humanity without any distinction, but also love to animals and to all nature. One offers to Buddha flowers, particularly the strong scented ones which here they call jasmine. On the other hand one offers to Durga goats so that the blood runs in a stream; even human sacrifices are believed to take place even to-day in secrecy. There is no personal God according to Buddha's teaching. Buddha himself in innumerable statues of his in Asia, is venerated as the ideal for a loving and meditating humanity."

After visiting Prof. Saha at Allahabad, the Professor goes to Agra "to the oriental fairyland. Here dominates the figure of the great Moghul, Akbar the Great. His ancestors had conquered the gold-land India with fire and sword but he wooed India. His whole-hearted striving was to fuse the culture of India, Persia, and Arabia into one. Ignorant of reading and writing, he arranged, when his time was not engaged in politics or war, to have read before him, by the learned man and poets of the palace, the wisdom of the Orient and the Occident. His tolerance is reminiscent of that of Frederick the Great or of that of the earlier Frederick who was buried in Palermo. Before his throne Arabic and Indian scholars,

even Christian had to debate. His tastes were responsible for the toning down of the Muhammadan fanaticism which was kept in check by his strong hand. The fifty years' rule of Akbar is a bright light in the Indian tragedy of the last 1,000 years. The beautiful fort of Akbar at Agra and his palaces at Fatehpur Sikri, with its grand reception halls, conference halls, library, and poets' villa receive great attention. Akbar's tomb in Sikandra is impressive."

"The most famous structure of Agra, nay in the whole of the Orient, is the Taj Mahal. The Taj is a dream in white marble, a perfected jewel as regards material and adjustment. The marble used appears to be even superior to that of Carrara. But even here no reproduction of the likeness of the dead, only verses from the Koran and floral ornamentation arranged to perfection of harmony. The Taj did cost its builder his throne. His son, on account of the millions that were spent, imprisoned him in the Fort of Agra so that he could see his Taj only from across the Jumna."

"In the park at Calcutta is the Victoria Memorial which competes with the Taj in size and material but not in beauty. I heard the pointed saying 'Taj Substitute'! In front of the Victoria Memorial stands the equestrian statue of the great Viceroy, Lord Curzon. Whatever one may think of Lord Curzon's politics, we shall not forget him as the first to advocate energetically the preservation of Indian works of art. We see his strong hand for example in Sikandra."

The Professor had to choose for want of time lost due to a slight attack of cold in Bangalore, between going from Agra to Delhi or accepting an invitation from Tagore to Shanti Niketan. He chose the latter. "The

surpassing significance of Tagore to modern Indian culture came home to me already when I was in Calcutta. In a beautiful house the daughter sang the poems of Tagore. On the walls hang paintings of the Tagore School. He is for India, perhaps the same as what old Goethe was to Germany of his time. Like Goethe he is infinitely diligent. He works from early in the morning till night. Even his practical interest in hand-work and technique is common with that of Goethe. His picture is known to all, his personal appearance, however, is very much more beautiful than his picture, a pure type of Aryan stock, with a lightness of the colour of the skin resembling that of an elephant's tusk. With his patriarchal beard he looks older than to that of his sixty-eight years. His English is like music. The evening on the upper terrace of his house next to his studio, in a bright moonlight is to me unforgettable. He spoke about Goethe, about the contrasts between the people of India and other cultured people of Asia, which he thought was greater than that to those of Europe."

Attitude of India towards Germany. "Germany is admired. German firms, in spite of all difficulties, are preferred. All gifted students would prefer to study in Germany; the training is supposed to be superior to that in England. But they get a position in the Government service only then, or only then with ease, if they bring a Doctor title from Cambridge."

He reports about the political and economic condition of India. "England likes to keep India as a market for her own manufactured goods. All railway materials, all sorts of machines and apparatus must be ordered from England. Even cakes and match-sticks are of English origin. And this

in spite of the fact that labour of all sorts is cheap in India...All the Indian professors with whom I spoke hope, without an exception, for a development towards a greater independence and for a dominion status." Among Indians, Sommerfeld finds that the "striving for an up-to-date and technical education is universal. Nothing sickens the Indians more than to think that the greater part of the budget goes to the military and the police and only ten per cent. goes for education." "The relation between the Indian professors and their English colleagues, as far as I have seen, is quite friendly."

The following recognition of India's past contribution and of its present scientific talents is very encouraging. "The scientific talents of Indians is extraordinary. Achievements in the most different fields of original investigations pour forth. India is, perhaps, to a much greater degree than we imagine, the mother of sciences. That our so-called Arabic numerals are really Indian, only transmitted by the Arabs, is well-established. But even the theorem of Pythagoras, which is the foundation for Greek geometry, it seems, is found enunciated in the Vedas. The knowledge of ancient Indians in Chemistry and their achievements in medicine are considerable. Asoka about 250 B. C. established hospitals. About technique, reference has already been made, namely, construction and handling of big pillars of stone, iron, etc. It showed itself particularly in the handling of iron and in a highly developed mining. If all the same one speaks of the treasures of India, one is greeted with a melancholy smile."

This last paragraph which is quoted below is touching and reflects not merely the Professor's own convictions but I believe that of millions of his countrymen, nay of the majority of

thinking men all the world over. We are thankful to the Professor for the same. He says, "We wish the Indian people, from the depth of our heart, an improvement in their economical position and fulfilment of their political expectations, not out of any grudge against England, but from the conviction that the culture of mankind stands to win if a peculiarly gifted people, in their upper classes an Oriental people related to us, who in olden days were far advanced to ourselves, should enter into a cultural competition on an equal basis with the other nations and maintain their outlook of the world (Weltanschauung) speculative, transcendental and unmindful of immediate success, against the increasing materialism of the Occident."—*The Modern Review, Calcutta*: June, 1929.

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Reviews and Notices.

A HAND-BOOK FOR HISTORY TEACHERS, EDITED
BY D. DYMOND, M.A. (METHUEN & Co., LONDON,
1929). Pp. viii & 247. Price 3s. 6d.

This book is the result of the collaboration of a number of teachers in order to offer practical help in the choice of material for the teaching of history to boys and girls and has been prepared with the help and advice of eminent teachers like Dr. Delisle Burns and Professor Hearnshaw, of the Historical Association. It is primarily intended to be useful to teachers of students of Britain under fifteen; but it can be advantageously used in India for the guidance of our students in the High School and Undergraduate classes in the matter of learning British and Imperial History in all phases, especially as we are overwhelmed with an enormous amount of text-books and reader books. The aim of all sound history-teaching should be the development of the child into a well-informed, civilised and good citizen, with reference to the particular character of his environment. The danger of an overloaded syllabus should be most carefully avoided, as well as that mechanical method of teaching which produces headache and a sense of tiredness in the pupil. Above all care should be taken to represent history, national and extra-national, as a continuous growth and not a mere series of accidents.

The book under review is a help to non-specialist teachers in their difficulties in framing a suitable syllabus and meeting their individual needs in the preservation of continuity and unity, in grading, in giving opportunities to the pupils for individual work and reading, etc. The concentric system has been condemned; and the periodic arrangement has been recommended with suitable modifications. Various suggestions are given with regard to the framing of a syllabus, the correlation between the junior and the senior stages, and the keeping of the balance between general, national and local history, as well as between political and social history.

These suggestions are greatly helpful to the author and syllabus-framer.

The collaborated lists of text-books for pupils under fifteen, books for class-libraries and teachers, the suggestion of sources for the preparation of history stories by the teachers in the shape of material that will lend itself to dramatic and vivid treatment, and a selected list of books of historical fiction for children and lastly suggestions for the teaching of present-day affairs complete the equipment of the book. The lists have been prepared with great care. The story-books list is a collection of famous historical episodes "suited for being told to young children, and chosen for their romantic value and compactness as well as for their historical significance." The list of books on historical fiction seems to have demanded even greater selective care in its compilation; and the main aim has been "to find in each period books that are actually within the children's powers, and that would at the same time help and not hinder their historical knowledge." In this matter recognised classics are not read with ease by the average child; and a wide variety exists among the powers and interests of different children; and only the exceptional children will read the older authors. The books of fiction fall into three classes; the leisurely story, full of incident and generally containing a good deal of historical reference, (2) the rattling adventure story and (3) the domestic and sentimental story. Boys mostly like the first two classes, and girls take kindly to all the three. In the list the books are roughly grouped as suited for juniors and for older students. The last section explains the methods by which children could be best taught civics; and it is recommended that civics teaching should not be taken as a separate subject, but should be an integral part of history teaching; it explains how civics teaching should penetrate the whole course and gives the necessary book list. The book under review is thus a greatly valuable guide to the history-teacher and should find a place in every school-library.

AT AJANTA, BY KANAIVALLAL H. VAKIL, B.A., LL.B.—WITH A FOREWORD BY W. E. GLADSTONE SOLOMON, I.E.S.—WITH 38 ILLUSTRATIONS. (D. B. TARAPOREVALA, SONS & CO., BOMBAY, 1929). Pp. 82. Price Rs. 3.

This small guide-book is intended to bring the famous cave-monasteries and cathedrals of Ajanta nearer the popular mind and imagination by giving the available information regarding the caves, paintings, sculpture and architecture of the place in a simple and classified form. The letter-press is prefaced with information regarding a short visit to and stay at the place and with a note on the history of the modern discovery of the famous paintings and caves. The *Chaityas* and *Viharas* are 29 in number and were all dedicated exclusively for the use of Buddhism; and they afford unusual opportunity to students of art and religion, philosophy and culture. The paintings about which so much has been written for nearly one century, are here noted in their essential peculiarities, cave by cave, as exhibiting secular life, several Jataka stories, the famous *Samsara Chakra* (wheel of life), the *Simhala Avadana*, various figures of the Buddha, etc. The decorations of the ceiling are marked by a harmonious combination of naturalism and conventionalism, and by delicate colouring, variety in design, flow of line and freedom of execution and of thought. The artist-monks of Ajanta regarded all beauty as one and copied the beautiful poses of women. They painted life as they saw it; and "though we feel the glow of a religious impulse behind their creations, we are above all inspired with their intuitive discovery of the beauty in natural movement, unstudied attitude, spontaneous gesture." The essence of the paintings is not a sort of extract from life—it is "life itself with its joyous impulses of body and spirit."

The section devoted to architecture shows that Ajanta contains both Gupta and pre-Gupta characteristics, motifs, details and forms. They show the evolution of form from purely wooden to lithic

architecture, the change from Hinayana to Mahayana, the changes in the form of the *stupa* and they explain the true origin of the temple *vimana* and the dome. The author pleads for a more intensive study of the *vikaras* which should yield valuable information about our civic and domestic architecture. The last section deals with the sculptures of Ajanta which offer a valuable field of investigation for reliefs, for sculpture in the round, for impressive individual figures and for large-scale compositions, for arabesques and patterns. Ajanta art in all its forms, is virile and unfettered. "It is related to and inspires life. Like life it changes and grows. It is, therefore, of appeal universal and eternal."

A MANUAL OF PSYCHOLOGY, BY PROF. G. F. STOUT, M.A., LL.D. FOURTH EDITION. REVISED IN COLLABORATION WITH THE AUTHOR, BY C.A. MACE, M.A. (UNIVERSITY TUTORIAL PRESS). Pp. 680. Price 12s. 6d.

Prof. Stout has won his name and fame as the "author of the well-known and very admirable Manual of Psychology." He is the distinguished representative of what is known as the central tradition in British Psychology. From the genetic point of view, the several successive stages of mental development have been described and illustrated, gradually leading up to the ideal construction of self which is the common goal of Ethics, Metaphysics and Psychology. To indicate the continuity of consciousness in its evolution, the author has amply given illustrations of the mental life of animals.

In modern days when Psychology is moving so rapidly as to make it difficult to adequately define its scope, it may not be difficult to pick out certain omissions or inadequate treatment of topics like the sub-conscious, dreams and intelligence tests. It must at once be conceded that it is not practical to develop in any one book all these questions, every one of which is sufficiently wide to demand special treatment and treatise.

This new 4th edition, revised by Mr. Mace in collaboration with Prof. Stout himself, has introduced a few changes which are more by way of classification and defence than any addition. The analytic method of treatment adopted in this manual is very convenient and useful for the student of psychology. It can be asserted without fear of contradiction that on what may be called the psychological part of psychology, Prof. Stout is *finis*, the very front rank with few equals.

lower
music

ZAKA ULLAH OF DELHI, BY C. F. ANDREWS—WITH AN INTRODUCTORY MEMOIR, BY THE LATE MAULVI NAZIR AHMAD. (W. HEFFER AND SONS, LTD. 1929.) Pp. xxx & 159. Price 7s. 6d. net.

The author, an intimate friend of Mahatma Gandhi and of the poet Tagore, who has been evincing great sympathy with and understanding of Indian Nationalism, particularly in its spiritual and cultural aspects, has made this sketch of an old friend of his Delhi days, who was the embodiment of the kindness and courtesy of an earlier generation, the theme of his ideal that Hindus and Mussalmans should settle down side by side in all mutual tolerance and affection. Written in his own easy, graceful and flowing style, the sketch of Munshi Zaka Ullah whose work in education and religion has had its counterpart in Tagore's work at Shantiniketan has been dedicated to the teachers and students of that School of International Fellowship which is striving to lead to a better mutual understanding between East and West. Maulvi Nazir Ahmad, a life-long friend of the Munshi and the master-spirit of modern Urdu prose, who was one of the chief leaders of 'the Aligarh School' founded by Sir Syed Ahmad, points out in his Introductory Memoir how the Munshi's faith in Islam was entirely untainted by religious bigotry, prejudice or superstition and how he was entirely free from any narrow sectarianism while Mr. Andrews' labour of writing

this biography is a clear proof of the wonderful power of true friendship.

The Munshi spent his yearly years in Old Delhi of the pre-Mutiny days, about which he never waxed enthusiastic, though he displayed great personal loyalty to the Emperor's family. Mr. Andrews points out how Old Delhi with its noticeable amalgamation of customs and usages among the common people, could be contrasted with the bitterness of modern times. The English Peace, introduced with Lord Lake's occupation of the city in 1803, secured the general sympathy of the Delhi people who were pleased with the forbearance exercised by the newcomers; but Hindus and Mussalmans alike clung with faithful loyalty to the Mughal Emperor's person, in spite of the inherent moral weakness of his personal administration. The Mughal Court became the centre of a notable literary activity which produced a regeneration of Urdu literature; while the New Learning ushered in by the study of English, of which Nazir Ahmad and the poet Hali were two of the first fruits, was, unlike the Bengal Renaissance, remarkably free from any tendency towards irreligion and atheism, though it was later in point of time and less enduring than the other, being overwhelmed by the catastrophe of the Mutiny. This learning gave an impetus to the development of Urdu and has produced in our age Muhammad Iqbal as "the crown of its creative achievement."

Zaka Ullah, himself a fruit of the New Learning, clung on with great faith to his old environment; and when the shock of the Mutiny which seriously affected him had passed away, he revived in spirit, gained fresh loyalty which was now given to Queen Victoria and threw himself with conviction into the task of spreading the New Learning, and consequently into the Aligarh Movement. He was an enthusiast in vernacular educational ideals, pioneered new traditions in text-book writing and laboured hard towards the modernising of Indian education. He was a true English educated Mussalman, possessing the liberality of the former and

the old world refinement of the latter; and we lay down this sketch of him with a sigh that there are not many more such kindly men in the life of our land.

W. AND A. K. JOHNSTON'S ENLARGED ATLAS FOR INDIAN SCHOOLS—WITH INDEX. (MACMILLAN & Co., LTD.) Price Re. 1-12.

This *Atlas* consists of 48 pages of plates and an exhaustive general index of place-names covering eight three-columned pages. The world is shown both in Mollweide's Equal Area Projection and in Mercator's Projection, in respect of mean annual rainfall, pressure of winds, political colouring, industrial distribution and isotherms. India is portrayed in all these features, as well as in vegetation, density of population, railways and industries. The Middle East extending from Egypt and the Levant to Turkistan, South-East Asia, and North-East Asia is shown, as well as the new political distribution in Central Asia and the Chinese Republic. The East Indies plate takes in a good slice of Northern Australia. In Ireland the Free State and Northern Ireland are clearly distinguished. India including Burma and Ceylon is shown in six sections, supplemented with insets. There is an industrial map of England and Wales; and the chief British Dominions are shown both in their physical and political colourings. The *Atlas* should be very handy for all school and college students of geography and the British Empire.

A HISTORY OF ANCIENT AND MODERN INDIA, BY R. C. DUTT, REVISED AND ENLARGED BY V. P. BOKIL. (MACMILLAN & Co., LTD., 1928). Pp. viii & 255. Price Re. 1-8.

This small book, originally published in 1900, has now been revised and brought up to very recent times. The hand of the reviser has been carefully restrained in many places and rightly too, for it is

very difficult to alter or amend the writing of a great scholar, however antiquated some of his views might have become. Naturally enough we do not find up-to-date views regarding the autochthonous peoples of the country, its pre-history and the original home of the Aryans. The new knowledge that has come to light regarding the Andhras and other nations has been but sparingly utilised; and we are still treated to the existence of Vikramaditya the Great in Yasodharman, the conqueror of the Huns. The treatment in other places continues to be good, particularly the syncretical and nature of the country and its culture in the so-called period of Rajput ascendancy. Mughal and Afghan rule runs in its old groove of treatment; and Maratha history has been brought down to the date of the extinction of the Peishwaship and supplemented with an intelligent analysis of the causes of its downfall. The treatment of history in the present century has been attempted to be brought on a level with the preceding narrative; some of the statements may be questioned as to their complete validity, viz., the acts of sedition were largely fostered by European enemies of the Empire; the Montagu-Chelmsford Report was a sympathetic reply to the demands of the National Congress, etc. The book has an easy and flowing style and can be used with benefit by our High School students. It has very attractive illustrations and maps.

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The Educational Review.

We must invite the attention of our readers to the fifth session of the All-India Teachers' Federation, which is to be held in

Madras during the ensuing Christmas holidays. The Hon. Raja Sir Annamalai Chettiar has kindly agreed to act as Chairman of the Reception Committee and efforts are being made to secure the Rt. Hon'ble V. S. Srinivasa Sastri to preside over the Conference itself. We have no doubt that under such excellent auspices, the Conference will be a great success, especially as the South India Teachers' Union is already up and doing and there has been a certain amount of propaganda in the various districts in aid of the Conference. Started in the year 1925, the All-India Teachers' Federation has made considerable progress during these years and has had four successful sessions already at Cawnpore, Patna, Calcutta and Bombay. It is up to the members of the teaching profession in Madras to add further strength to this movement which aims not only at the consolidation of the teaching profession in India, but also at the advancement of educational conditions in this country. At the recent World-Conference on Education held at Geneva, the All-India Teachers' Federation was represented by a large number of delegates which included Prof. Karve, the founder of the Indian Women's University, Poona, Dr. V. S. Ram of the Lucknow University,

and Mrs. Kamaladevi Chattopadhyaya, the Secretary of the All-India Women's Conference on Educational Reforms. In response to the invitation of the All-India Teachers' Federation, the Asiatic Section of the World Conference will meet in Benares in 1930 and it is not improbable that the World Conference itself may be invited to hold its sessions in India in the near future.

It is hoped the educational world of India is alive to the beneficial consequences, particularly to female education, of the recent passing of the Age of Consent Bill.

One of the most formidable obstacles in the path of female education in this country has been the pernicious practice of the early marriage of girls preventing them from staying at school for the time necessary for receiving effective education. If girls are to be withdrawn from school at the age of ten or eleven, it becomes impossible to give them even the rudiments of education. In the majority of instances, it is not only that the education imparted is incomplete; the little education that is acquired is forgotten very quickly in the worries of premature domestic responsibilities. The new Act provides for the prevention of marriages before fourteen and the penalisation of the consummation of marriages before fifteen. In normal circumstances, girls may now be expected to continue at school till they are fourteen or fifteen and the chances of their education may be said to have im-

proved distinctly. We have therefore no hesitation in thinking that the new measure is a landmark not only in the history of social reform in India, but also in that of education.

The increasing attention paid to physical education is one of the most gratifying signs of modern developments in Indian education. A Committee appointed by the Government of Bombay to consider what steps may be taken in the Presidency for improving the physique of our students in schools and colleges has made some valuable recommendations recognising that the physical education of boys and girls should be the first charge on the resources of the State. The idea is put forward that there should be a Department of Physical Education in connection with the Educational Department and the subject of physical education should be considered to be on a par with other subjects. It is also recommended that there should be a Central Board of Education working in close association with the proposed Department of Physical Culture and the Board should consist of representatives of the Government, the Legislative Council and Headmasters of High Schools. One of the most important recommendations of the Committee is that the recognition of a school should depend on the fulfilment of all the conditions required for the efficient imparting of physical education. The giving of grants-in-aid to *akharas* and

Physical Education for Boys and Girls.

the introduction of indigenous exercises in girls' schools are other suggestions. It is recognised that the scheme will cost money and the annual expenditure to the Government for introducing compulsory physical education in all schools will be Rs. 4,73,000. "It is difficult," observes the Committee in conclusion, "for us to stipulate the minimum period within which Government should give full effect to the scheme of introducing compulsory physical training in all the schools in the Presidency. It is up to the Government to find the necessary funds as early as possible and meet the popular demand for improving the physique of the coming generation by introducing compulsory physical training in all schools."

Nobody can gainsay, particularly in South India, the valuable work done by Christian Missions and Indian Education. Christian Missionaries in the spread of education. Some of the problems involved in a consideration of the subject are discussed in a new volume on the *Christian Task in India* (Macmillan). The Rev. John McKenzie, the Principal of the Wilson College in Bombay, an experienced educationist, who has probably spent more than two decades in this country writes on the subject of *Higher Education* in the volume reviewing the work accomplished by Christian Missions and indicating the lines of development for the future. The writer claims that "Christian educational institutions have

been exercising an enormous influence, intellectually, morally and spiritually on the lives of those who have studied in them and through them on the life of the whole community. It is an influence that has led to comparatively few accessions to the Christian Church, but nevertheless it is an influence that is Christian and that is fraught with great significance for the religious life of India and of the world." It is also claimed that the Christian institutions have rendered a great service in helping to break down racial and national barriers. It will be acknowledged on all hands that there is much truth in both of these remarks. The Rev. McKenzie is of opinion that the Christian community has also been benefited immensely by association with non-Christians in these institutions and does not approve of the idea of their isolation. We wish more attention had been devoted to the future of Christian education in India. There has been a feeling on the part of some Christian Missionaries in various parts of the country that the rising tide of nationalism is acting against them and it is time they closed their educational work in India. The optimism expressed in this volume should be of some help to those who waver in their faith of Missionary education in India. India is such a vast country and the field for educational work is so expensive that a cordial welcome should be extended to all efforts coming from whatever quarter.

It was a notable address* that Bishop Waller delivered at the Universities Convocation of the Madras University.

Started originally on the model of the London University purely for examining purposes, Indian Universities have taken a long time to recognise that the advancement of knowledge is one of the fundamental aims of a University organisation and it is something that the idea is being pressed on them from various directions at least to-day. In the course of his address Bishop Waller said:

The primary object of a University is the devoted search for truth wherever it may be found. This devotion to truth and to truth alone has made the great Universities international in their character, cosmopolitan in their constituency. During the renaissance of Europe the great Universities of Spain and Italy were the training ground of European scholars from every country of the West. Turning to India we find in the schools which used to gather in her sacred towns and from which her ancient literature issued the same all-absorbing search for truth. Before the Christian era, to give one instance alone, the great Code of Manu, a law-book in verse, covering all phases of life in India, was being shaped in the famous schools of learning which gathered round the great teachers of the day. The Upanishads were the result of free discussions of the great problems of life, under the leadership of sages, to whom gathered earnest students from all over India. It may be that to-day we shall have difficulty in recognising such schools as these as the prototype of the modern University. But my point is that in the early days, whether in Europe or in Asia, the unflinching search for truth has been the persistent characteristic of schools of learning from the earliest ages. In them were hammered out by unrelenting toil and inexorable honesty of thought ideas which have moulded the world in religion, in government, in science and in art. Can any one

* The full address is reprinted elsewhere in this issue.

say that such work is not of primary importance in India to-day? We need the higher research work which will give us a synthesis of *Eastern and Western thought*: we need the particular research work which will give us the material to solve many particular *problems* in the nation's life: we need the education which will enable the youth of the country who fill our schools and colleges to appreciate and use the knowledge *acquired by the specialists*. And above all, we need the self-sacrificing devotion to truth, which enabled the students of ancient India to live their hard and simple lives, content if only they might penetrate a little further into the secrets of the universe.

Student Life in the West is a very useful publication just issued by the Christian Literature Society, Madras. The author, Dr. A.J. Appasamy, Ph. D., has discussed the conditions of student life in England, on the Continent and also in America. With a very observant eye, he has noted the details of general University life in Western countries and has not confined his review to the work in the class-room. Interesting information is available in the book regarding self-supporting students in America. It is very common for the poor student in America to work on a farm or in a factory during the long vacation, to be able to earn some money to pursue his education at the University. India is such a poor country that it is surprising the institution has not taken root in this country. This writer has seen a college student in an Indian city maintaining himself by selling newspapers in the streets during his leisure hours, but it is no exaggeration to say that the bulk of

the poor students in India are content to lay or be a burden on others rather than adopt such a self-respecting practice as working their own way in education. Mr. Appasamy's book contains a number of interesting suggestions useful to those proceeding to foreign countries for their education.

We have great pleasure in supporting the appeal which has been issued for funds on behalf of the Ramakrishna Mission Students' Home in Madras, particularly for the development of the Industrial section. Started by a handful of enthusiasts some years ago, the position of the institution may now be said to be assured as a good residential High School, but in view of the prevailing unemployment of the educated classes in the country and the desirability of training the younger generation for industrial careers, the authorities have wisely resolved upon developing the Industrial section which has already been opened by the generosity of the Madras Central Urban Bank, the Maharajah of Venkatagiri and Mr. Alladi Krishnaswami Iyer who have donated the sums respectively of Rs. 2,000, Rs. 5,000 and Rs. 10,000. It is of course impossible to run an Industrial section for a High School without the necessary equipment which is modestly estimated to cost a lakh of rupees besides the recurring expenditure which may be needed to keep the institution going. We hope the generous public of South

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India will come forward to help the institution.

The Committee appointed by the Government of the United Provinces to consider the question of unemployment among the educated middle classes has just published its report and though it makes the confession that it has no remedies to propose, there are a large number of suggestions made which should help in the solution of the question. It is rightly recognised that the solution of the problem of unemployment depends on social advancement in various directions and a radical change of outlook on the part of the people. It is of some significance that the Committee does not believe in the popular proposal of inducing educated people to go and settle on land for agricultural purposes. It is pointed out that apart from the circumstance that almost every available inch of good land in the United Provinces is already under cultivation, it is not practicable for the urban English-educated population to possess the knowledge and experience necessary for success in such a scheme. "Agriculture," observe the writers of the report, "is a difficult and exacting profession and one which demands a long apprenticeship, as well as a natural inclination and a natural hardiness which can only be acquired in early years. This province is already one of the most closely cultivated regions of the world. There is no waste land suitable for cultivation avail-

able except in a few unhealthy or malarious tracts or in one or two jungly areas which owing to their remoteness have not yet come under the plough. Such are not places where townsmen, novices in agriculture, have any chance of success. Elsewhere the pressure on the land is so great that every square yard which is capable of cultivation is already tilled. In order to find suitable land in which to settle our educated townsmen, it would be necessary to dispossess those who are now in occupation of it, that is to say, to remove men who are already agriculturists in order to make room for men who are not, for these to try their hand at farming. Such a policy condemns itself." The Committee recommends the setting up, as an experimental measure, of Employment Bureaux at Lucknow, Allahabad, Cawnpore and Agra with the following objects:—

(i) To maintain a register of middle-class students who have passed (a) the High School examination, (b) the Intermediate examination, (c) a University degree examination;

(ii) to ascertain what openings for employment there are for those with these qualifications;

(iii) to help them to obtain employment by putting them in touch with employers desiring such men, and *vice versa*;

(iv) to give advice to parents and schoolmasters about the course of preparation suitable to their boys; and to give advice to boys leaving school and either help them to obtain employment or recommend to them what further course of training or education they should undergo;

(v) to issue an annual report giving—(a) the number of students for whom the Bureau

has been able to find employment; (b) the number of students who through no fault of their own have been unable to find employment; (c) the number of appointments available for which suitable candidates were not available; (d) suggestions for the provision of facilities for training not at present available (e) any facts observed bearing on the causes of unemployment of the middle classes; (f) any proposals for improving the usefulness of the Bureau.

The Government has not yet passed orders accepting the recommendations of the Committee, but the working of these Bureaux of Employment will be watched with considerable interest. The proposal is for the present to set them up for a period of three years. We have no hesitation in thinking that the experiment is worthy of adoption in other parts of India also.

Delivering the Convocation Address to the University of Mysore, Sir C. V. Raman

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message to the younger generation to put aside the feeling of helplessness:—

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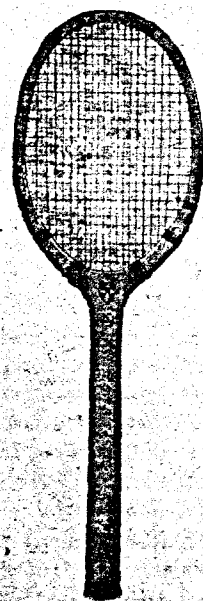
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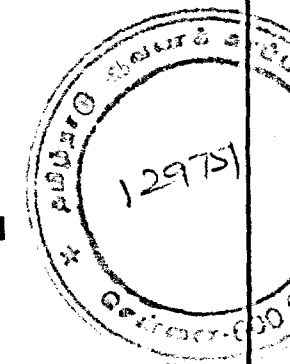
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The Madras Mail, Friday, October 31, 1924:

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

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

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

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

Education (Allahabad), March 1925.

The distinguished author of the book under review is one of the few enthusiasts in India who have taken to a systematic study of child-nature. The book embodies the results of close study by the author, not merely of the existing literature on the subject, but of the actual, mental and physical growths of children, as witnessed by her in several schools in Britain and India where she has had the opportunity to work. Within a brief space of 200 pages, the author has contrived, in her plain, matter of fact, and at the same time, engaging style, to elucidate the various topics connected with child life such as the sense perception, play, the service of Hand in Mental Development, fatigue, exceptional children, measurement of Intelligence and the Kindergarten system; touching the various theories on these topics and supplementing them by her own views based on personal study and investigation. We would especially commend to our readers the beautiful and inspiring chapter on the Kindergarten system in which without going into technical detail, the author has surveyed the basic principles of the system and pleaded in accordance with these principles for the indianisation of Indian education. We are sure that this

little book will prove an excellent handbook for teachers as well as parents and others interested in the subject and kindle in them a deeper interest therein. It has been already recommended by the Academic Council of the Madras University as a suitable text-book for the students appearing for the L. T. Examination and we hope that other Universities will soon follow suit. We congratulate both the author and the publishers on this valuable publication and recommend every teacher to secure a copy thereof.

The Madras Christian College Magazine, January 1925.

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

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

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

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As rightly pointed out in the Foreword by Mr. R. Vaithyanathaswamy, the reference of historical background in the course of teaching, adds a human element and helps to make the subject more interesting. The experimental work with solids will prove to be of great value to the teacher and the pupil alike. The large and varied number of exercises form a very commendable feature of this interesting book.

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

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

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

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

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

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Supplement to the Educational Review—August 1929.

THE BENGAL (RURAL) PRIMARY EDUCATION BILL, 1929.

A BILL

to provide for the extension of primary education in rural areas in Bengal.

WHEREAS it is expedient to make better provision for primary education in rural areas in Bengal;

AND WHEREAS the previous sanction of the Governor-General under sub-section (3) of section 80-A of the Government of India Act has been obtained to the passing of this Act;

It is hereby enacted as follows:—

CHAPTER I.

PRELIMINARY.

1. (1) This Act may be called The Bengal (Rural) Primary Education Act, 1929.

(2) It extends to the whole of Bengal except the town of Calcutta and any area which has been or may hereafter be constituted a municipality under the provisions of the Bengal Municipal Act, 1884.

(3) It shall come into force, in whole or in part, in such districts or parts of districts on such dates as the Local Government may, by notification, direct and for this purpose different dates may be appointed for different provisions of this Act and for different districts, or parts of districts.

Explanation.—The words "the town of Calcutta" mean, subject to the inclusion of any local area by notification under section 543 of the Calcutta Municipal Act, 1923, and subject to the provisions of section 147 of the Calcutta Improvement Act, 1911, the area described in Schedule I to the Calcutta Municipal Act, 1923:

Provided that this Act shall not come into force in any cantonment without the previous sanction of the Governor-General in Council.

2. In this Act, unless there is anything repugnant in the subject or context:—

(1) "attendance" at a school means presence for instruction at a primary school for so many and on such days in the year and at such time or times on each day of attendance as may be required by the prescribed educational authority after consulting the Attendance Committee;

(2) "Board" means a District School Board constituted under this Act;

(3) "child" means a child who is not less than six and not more than eleven years of age or other prescribed age;

(4) "Committee" means the Central Primary Education Committee constituted under this Act;

(5) "Director of Public Instruction" means the officer designated by this name by the Local Government for the purposes of this Act;

(6) "district" has the same meaning as in section 4 of the Cess Act, 1880;

(7) "District Board" means a District Board constituted under the Bengal Local Self-Government Act of 1885;

- (8) "District Inspector of Schools" means the local executive educational officer in charge of primary education in each district responsible to the Director of Public Instruction;
- (9) "financial year" means a year beginning on the first day of April;
- (10) "guardian" means any person to whom the care, nurture or custody of any child falls by law or by natural right or recognised usage, or who has accepted or assumed the care, nurture or custody of any child or to whom the care or custody of any child has been entrusted by any lawful authority;
- (11) "notification" means a notification published in the *Calcutta Gazette*;
- (12) "Panchayat" means a Panchayat appointed under the Village Chaukidari Act, 1870;
- (13) "prescribed" means prescribed by rules made under this Act;
- (14) "primary education" means education in such subjects and up to such standards as may be prescribed;
- (15) "primary school" means a school or department of a school giving instruction in primary education either managed by the Board or recognised as a primary school under section 53;
- (16) "public management" in relation to a primary school means management by the Government, or by a District School Board either directly or through its power of delegation to a Union Board, a Union Committee or a Panchayat; all other management shall be deemed to be "private management";
- (17) "sub-division" has the same meaning as in the Code of Criminal Procedure, 1898;
- (18) "Union Board" means a Union Board constituted under the Bengal Village Self-Government Act, 1919;
- (19) "Union Committee" means a Union Committee constituted under the Bengal Local Self-Government Act of 1885.

CHAPTER II.

THE CENTRAL PRIMARY EDUCATION COMMITTEE.

3. A Committee, to be called The Central Primary Education Committee, shall be constituted in the manner hereinafter provided, for the purpose of advising the Local Government on all matters which may be or are to be referred to it under this Act.

4. (1) The Committee shall be constituted for five years at a time and shall consist of the following members, namely:—

- (a) the Director of Public Instruction, Bengal, *ex-officio*;
- (b) ten members of whom two shall be elected in the prescribed manner from each of the five divisions of the Province by the members of the District School Boards of each division, one to be a Muhammadan and the other a Hindu,
- (c) five members to be appointed by the Local Government, of whom two shall be representatives of the depressed classes and three shall be persons possessing experience in educational matters.

(2) If by such date as the Local Government may fix, any of the electoral bodies referred to in clause (b) of sub-section (1) fails to elect a person to be a member of the Committee, the Local Government shall appoint a suitable person in his place and any person so appointed shall be deemed to be a member as if he had been duly elected by such body.

5. The Local Government may refer any matter to the Committee for its opinion, and shall consult the Committee before making an order under section 21, section 22, or section 50, or a notification under section 55, or a rule under section 65.

CHAPTER III.

THE DISTRICT SCHOOL BOARD.

6. When this section comes into force in any district, the Local Government shall establish for such district a District School Board consisting of the following members, namely:—

- (a) the District Magistrate, *ex-officio*;

Provided that, on the expiration of two terms of four years mentioned in sub-section (2) of section 10 after the first establishment of the Board, the District Magistrate shall cease to be an *ex-officio* member of the Board;

- (b) the Sub-divisional Magistrates, *ex-officio*;

- (c) the District Inspector of Schools, *ex-officio*;

- (d) the Chairmen of the Local Boards, *ex-officio*;

- (e) the Chairman and the Vice-Chairman of the District Board, *ex-officio*;

- (f) as many members as there are sub-divisions in the district to be elected in the prescribed manner by the members of the District Board;

Provided that the number shall in no case be less than two;

- (g) one member for each sub-division to be elected in the prescribed manner by the members of the Union Boards, Union Committees and Panchayats within the sub-division from amongst the members of such Union Boards, Union Committees and Panchayats;

Provided that the number shall in no case be less than two;

- (h) as many members as there are sub-divisions in the district to be appointed by the Local Government;

Provided that the number shall in no case be less than two; and

- (i) one teacher of a primary school to be appointed by the Local Government for the first term of four years referred to in sub-section (2) of section 10 and thereafter to be elected in the prescribed manner by the teachers of primary schools.

7. If, by such date as may be fixed by the Local Government—

- (i) the members of the District Board do not elect the members referred to in clause (f) of section 6,

- (ii) the members of Union Boards, Union Committees and Panchayats do not elect the members referred to in clause (g) of section 6,

- (iii) the teachers of primary schools do not elect the member referred to in clause (i) of section 6, after the expiration of the first term of four years mentioned in sub-section (2) of section 10 after the first establishment of the Board,

the Local Government shall appoint suitable persons to be such members as if they had been duly elected by the members of the District Board or of Union Boards, Union Committees and Panchayats, or by the teachers of primary schools as the case may be.

8. (1) There shall be a President of the Board, who shall, until the expiration of two terms of four years mentioned in sub-section (2) of section 10 after the first establishment of the Board, be a member of the Board appointed in that behalf by the Local Government, and shall thereafter be a member of the Board elected in that behalf by the Board in the prescribed manner and approved by the Local Government.

(2) The Board may from time to time elect, for such period as it thinks fit, one of its members to be Vice-President.

9. The names of the President, the Vice-President and of the appointed and elected members of the Board or, where the President has been appointed *ex-officio* or a member is an *ex-officio* member, the office by virtue of which he has been appointed President or is a member, shall be published by the Local Government in the *Calcutta Gazette*.

10. (1) The Vice-President and any other appointed or elected member may resign his office by giving notice in writing to the President, and, on such resignation being accepted by the President, shall be deemed to have vacated his office.

(2) Subject to the provisions of this Chapter, the appointed or elected members shall hold office for a term of four years, and may, on the expiration of such term, be re-appointed or re-elected.

(3) Notwithstanding the expiration of the term of four years mentioned in sub-section (2) an appointed or elected member shall continue to hold office until the vacancy caused by the expiration of the said term has been filled.

11. (1) The Local Government may, by notification, remove a President, Vice-President, or member of the Board if he—

- (a) refuses to act or becomes incapable of acting as a member of the Board ;
- (b) is declared insolvent ;
- (c) has been or is convicted of any such offence or has been or is subjected by a criminal court to any such order as in the opinion of the Local Government implies a defect of character which unfits him to become or to continue to be a President, Vice-President or member of the Board ; or
- (d) without excuse sufficient in the opinion of the Local Government, is absent without the consent of the Board from more than six consecutive meetings of the Board.

(2) The Local Government may fix a period during which any person so removed shall not be eligible for re-appointment or re-election.

12. When the place of an appointed or elected member of the Board becomes vacant by his removal, resignation or death, a new member shall be appointed or elected in the manner provided in section 6, and shall hold office so long as the member whose place he fills would have been entitled to hold office if such vacancy had not occurred ;

Provided that no act of the Board, or of its officers, shall be deemed to be invalid by reason only that the number of members of the Board at the time of the performance of such act was less than the number provided by section 3.

13. Members (other than *ex-officio* members who are Government officers) and the establishment of a Board shall be entitled to travelling allowance of the prescribed amount to be paid in the prescribed manner from the District Primary Education Fund for expenses incurred by them in attending meetings of the Board or in performing any duty assigned to them by the Board for the purposes of this Act.

14. Every Board shall be a body corporate by the name of "the District School Board of (name of district)," shall have perpetual succession and a common seal, and shall by the said name sue and be sued, with power to acquire and hold property, both movable and immovable, and, subject to the prescribed conditions, to transfer any property held by it and to contract and do all other things necessary for the purposes of this Act.

15. (1) The President, or, in his absence, the Vice-President, shall preside at every meeting of the Board and shall have a second or casting vote in all cases of equality of votes.

(2) In the absence of both the President and Vice-President, the members present at any meeting shall elect one of their number to preside, who shall have a second or casting vote in all cases of equality of votes.

16. All meetings of the Board shall be open to the public :

Provided that the person presiding may in any particular case, for reasons to be recorded in writing, direct that the public generally or any particular person shall withdraw.

17. No member of the Board shall vote on any question coming before the Board for consideration in which (otherwise than in its general application to all persons and properties within the district) he has a pecuniary interest.

18. (1) All orders of the Board shall be carried into effect by the President, in whom the entire executive power of the Board shall be vested and who shall be responsible for giving effect to such orders.

(2) The President shall not exercise any power which by this Act is expressly declared to be exercisable by the Board.

(3) The President may authorise the Vice-President by an order in writing to exercise any of the powers conferred or to perform any of the duties imposed on the President by this Act and thereupon the responsibility of the President in respect of such powers and duties shall devolve upon the Vice-President during the continuance of such order.

(4) When the office of President is vacant, the Vice-President shall exercise the functions of the President until a new President is appointed.

19. (1) Every Board may make regulations in regard to the following matters, namely :—

- (i) the time and place of its meetings ;
- (ii) the manner in which notice of meetings shall be given ;
- (iii) the conduct of proceedings at meetings ;
- (iv) the division of duties among the members of the Board ;
- (v) the appointment, duties and procedure of special committees consisting wholly of members of the Board or partly of such members and partly of residents within the local jurisdiction of the Board ;
- (vi) the persons by whom receipts may be granted for money paid to the Board ;
- (vii) the inspection by members of the Board of primary schools situated within its jurisdiction and the inspection of accounts, books, registers, returns, reports and other documents, appertaining to such schools ; and
- (viii) the carrying out of the purposes of this Act.

(2) Any regulation made under sub-section (1) which is repugnant to the provisions of any rule made under section 65 shall, to the extent of such repugnancy, but not otherwise, be void.

20. The Commissioner of the Division may, by order in writing, suspend the execution of any resolution or order of a Board situate within his jurisdiction and prohibit the doing or completion of any act which is about to be done, or is being done within such jurisdiction in pursuance of or under cover of this Act, if, in his opinion, the resolution, order or act is in excess of the powers conferred by law.

21. (1) If at any time it appears to the Local Government that a Board or its President has made default in performing any duty imposed by or under this Act, the Local Government may, by an order in writing, fix a period for the performance of such duty.

(2) If the duty is not performed within the period so fixed, the Local Government may appoint a person to perform it, and may direct that the expense of performing it shall be paid, within such time as it may fix, to such person by the Board.

(3) If the expense is not so paid, the Local Government may make an order directing the person having the custody of the District Primary Education Fund to pay to the person appointed under sub-section (2) such expense in priority to any other charges against such fund, and he shall, so far as the funds to the credit of the Board admit, comply with the order of the Local Government.

22. (1) If at any time it appears to the Local Government that a Board is not competent to perform or persistently makes default in the performance of the duties imposed upon it by or under this or any other Act, or exceeds or abuses its powers, the Local Government may, by an order in writing, specifying the reasons for so doing, remove all appointed and elected members of such Board and direct that the vacancies shall thereupon be filled by election in respect of elected members and by appointment in respect of appointed members or that all the vacancies shall be filled by appointment.

(2) From the date of an order under sub-section (1) until the vacancies are filled—

- (a) all powers and duties of the Board shall be exercised and performed by, and
- (b) all property vested in the Board shall vest in such person, in such manner, as the Local Government may direct.

23. (1) It shall be the duty of every Board—

- (a) to prepare and maintain a register showing all primary schools within the district, together with the teachers thereof and their qualifications and the accommodation available therein;
- (b) to tabulate such further information and to prepare such plans or maps as may be necessary to enable the Board to frame an estimate of the existing provision for primary education and of the further provision necessary to place primary education within the reach of all children;
- (c) to prepare in the prescribed manner schemes for the extension of primary education within the area under the authority of each Union Board, Union Committee or Panchayat;
- (d) to arrange, in the prescribed manner, for the opening of additional primary schools and the expansion of existing primary schools with a view to giving effect as funds permit to such schemes;
- (e) to maintain all primary schools under public management in the district, except primary schools maintained by Union Boards under the control of the Board;
- (f) to construct, repair and manage either directly or through its powers of delegation to Union Boards, Union Committees and Panchayats, all primary schools under public management in the district;

- (g) subject to the prescribed conditions, to appoint and fix and pay the salaries of teachers in primary schools;
- (h) to grant recognition to schools in accordance with the provisions of section 53 or to withdraw recognition therefrom;
- (i) to make grants in the prescribed manner for scholarships and stipends for primary schools;
- (j) to consider and pass orders on all applications under section 54 for grants to primary schools under private management;
- (k) to make grants to primary schools under private management;
- (l) to prepare and transmit to the Director of Public Instruction proposals for increasing the supply of trained and certificated teachers;
- (m) to advise upon all matters relating to primary education referred to the Board by the Director of Public Instruction;
- (n) subject to the prescribed conditions—
 - (i) to grant pensions and gratuities to,
 - (ii) to form and manage a provident or annuity fund for,
 - (iii) to compel contributions to such fund from, and
 - (iv) to supplement the contributions to such fund of,
 the establishment of the Board and teachers in primary schools.

(2) The register referred to in clause (a) of sub-section (1) shall be maintained and the information referred to in clause (b) thereof shall be tabulated separately for each area under the authority of a Union Board, Union Committee or Panchayat.

24. Every Board shall in each financial year—

- (i) frame and transmit to the Director of Public Instruction, by such date and in such form as he may direct, a statement showing for its district—
 - (a) the names of primary schools under private management for which grants have been sanctioned for that year; and
 - (b) the amount of the grant which has been sanctioned for each such school;
- (ii) furnish a report to the Director of Public Instruction, by such date and in such form as he may direct, exhibiting the grants which it has distributed to schools within the district.

25. Every Board shall prepare and transmit to the Director of Public Instruction such further reports and statements as may be prescribed.

26. (1) Subject to the prescribed conditions, a Board may appoint such staff of officers and servants other than Inspectors as it may consider necessary to carry out its duties under this Act, and may fix and pay salaries to such staff.

(2) Subject to the prescribed conditions, a Board may punish or dismiss members of its staff.

27. The Local Government may, at the request of the President of the Board, acquire, under the provisions of the Land Acquisition Act, 1894, any land required for the purposes of this Act.

“Land” in this section has the same meaning as in clause (a) of section 3, of the Land Acquisition Act, 1894.

28. All buildings or other property, movable or immovable in a district vested in or held by or under the control of a District Board at the date of the commencement of this Act for the purposes of primary education shall for the purposes of this Act, vest in or be held by or be under the control of the District School Board in that district :

Provided that in the event of a dispute arising whether any building or other property is so vested in or held by or under the control of a District Board at the date of the commencement of this Act, the question shall be referred to the Local Government whose decision thereon shall be final.

CHAPTER IV.

CESS AND TAX FOR PRIMARY EDUCATION.

29. (1) In any district or part of a district in which the provisions of this Chapter are in force, all immovable property on which the road and public works cesses are assessed according to the provisions of the Cess Act, 1880, shall be liable to the payment of a primary education cess.

(2) The primary education cess shall be levied at the rate of five pice on each rupee of annual value of land and of annual net profit from mines, quarries, tramways, railways and other immovable property as determined under the Cess Act, 1880.

30. (1) Except as otherwise provided in this Act the primary education cess shall be paid to the same persons in the same manner and at the same time as the road cess and public works cess are paid under the Cess Act, 1880.

(2) Every holder of an estate shall yearly pay to the Collector the entire amount of the primary education cess calculated on the annual value of the lands comprised in such estate at the rate provided in sub-section (2) of section 29 less a deduction to be calculated at one pice per every rupee of the revenue entered in the valuation roll of such estate as payable in respect thereof.

(3) Every holder of a tenure shall yearly pay to the holder of the estate or tenure within which the land held by him is included the entire amount of the primary education cess calculated on the annual value of the land comprised in his tenure at the rate provided in sub-section (2) of section 29 less a deduction to be calculated at one pice for every rupee of the rent payable by him for such tenure.

(4) Every cultivating raiyat shall pay to the person to whom his rent is payable four-fifths of the said primary education cess calculated at the rate provided in sub-section (2) of section 29 upon the rent payable by him or upon the annual value, as ascertained under the provisions of the Cess Act, 1880, of the land held by him.

31. When the primary education cess is for the first time imposed in any district or part of a district, the Collector of the district shall cause a notification to be published and a proclamation to be made in the manner provided by section 40 of the Cess Act, 1880, announcing such imposition, and shall cause to be served on the holder of every estate within the district or part of the district concerned, a notice showing the amount of primary education cess payable in respect of his estate, and specifying the date from which such primary education cess will take effect :

Provided that no defect in the service of such notice shall affect the liability of any person or property to the payment of the primary education cess.

32. Subject to the provisions of this Chapter, the provisions of the Cess Act, 1880, shall apply as far as possible to the assessment, levy, payment and recovery of the primary education cess.

33. The proceeds of the primary education cess in each district shall be paid by the Collector into the District Primary Education Fund of such district.

34. (1) The District Magistrate or one of his subordinate officers shall from time to time examine the assessment list prepared under section 16 of the Village Chaukidari Act, 1870, and shall consider the assessment made under section 38 of the Bengal Village Self-Government Act, 1919, and, after such inquiry as he considers necessary, shall prepare a list of all persons assessed to pay the Chaukidari rate or the Union rate, as the case may be, who, in his opinion, have been so assessed wholly or in part in respect of their trade, business or profession.

(2) The District Magistrate shall assess a tax on each of such persons not exceeding rupees one hundred per annum.

(3) The amount of tax so assessed shall be communicated to the Union Board or Panchayat concerned, and the Union Board or Panchayat shall collect the tax as if it were the Union rate or the Chaukidari rate.

(4) Any arrears of the said tax may be recovered by any process enforceable for the recovery of an arrear of Union rate or Chaukidari rate.

(5) The Union Board or Panchayat shall remit the amount of tax realised under this section to the District Magistrate after deducting ten *per cent.* thereof to defray the cost of collection.

(6) The proceeds of the said tax in each district shall be paid by the District Magistrate into the District Primary Education Fund of such district.

35. For the purposes of this Chapter, the expressions "annual value of land," "cultivating raiyat," "estate," "holder of an estate or tenure" and "land" have the same meaning as in section 4 of the Cess Act, 1880.

CHAPTER V.

DISTRICT PRIMARY EDUCATION FUND.

36. (1) There shall be formed for each district in which the provisions of this Chapter are in force, a fund to which shall be credited—

(i) all sums granted by the Local Government for the payment of grants to primary education ;

(ii) all sums granted by the Local Government for the institution and maintenance of primary schools and for the payment of teachers in primary schools ;

(iii) all sums granted by the Local Government for scholarships for children in primary schools ;

(iv) the proceeds of the primary education cess levied in the district ;

(v) the proceeds of the tax imposed under section 32 ;

(vi) all income derived from any endowments or other property owned or managed by the Board for the purposes of this Act ;

(vii) the amount of all fines and penalties imposed under this Act ;

(viii) all sums received by the Board under section 48 ;

(ix) all school fees, if any, collected in primary schools maintained by the Board ; and

(x) all other sums of money which may be received by the Board under or for the purposes of this Act.

(2) The District Primary Education Fund shall become vested in the Board, be under its control and shall be held by it in trust for the purposes of this Act.

37. Except as otherwise provided in this Act, the District Primary Education Fund shall be applicable to the following objects in the following order:—

Firstly—the payment of any sums which the Board may be liable to pay as interest upon loans raised by it for the purposes of this Act and the formation of a sinking fund when required;

Secondly—the payment of the prescribed percentage of the cost of establishments entertained and expenses incurred by the Collector under section 91 of the Cess Act, 1880;

Thirdly—the indemnification of the Collector with the sanction of the Commissioner of the Division from any of the costs, charges and expenses incurred by him under Chapter IV;

Fourthly—the payment of the cost or the prescribed percentage of the cost of audit;

Fifthly—the payment of salaries of the establishment of the Board and of teachers in primary schools and, subject to the prescribed conditions, of pensions, gratuities and grants made for supplementing contributions to the provident fund of the establishment of the Board and of teachers in primary schools;

Sixthly—the payment of travelling allowance to members of the Board and its establishment as provided in section 13;

Seventhly—the payment of expenses incurred by the Board in the construction, equipment and maintenance of primary schools; and

Eighthly—generally, the carrying out of the purposes of this Act.

38. (1) All moneys payable to the credit of the District Primary Education Fund shall forthwith be paid into the prescribed Bank or Government Treasury.

(2) All orders or cheques upon the said Fund shall be signed by the President or by such person as he may authorise in writing in this behalf.

(3) No money shall be spent from this Fund—

(a) except for the purposes of this Act, and

(b) unless its expenditure is provided for—

(i) in the budget of the Board as approved by the Local Government under sub-section (2) of section 39, or

(ii) by reappropriation in the prescribed manner.

39. (1) Every Board shall each year, prepare in the prescribed form a budget of income and expenditure of the Board for the ensuing financial year, and shall submit it to the Local Government through the Director of Public Instruction on or before the thirtieth day of November.

(2) The Local Government may either approve of the budget as it stands, or approve of it after making such alterations (if any) as it may think fit or may cause it to be returned to the Board for such modifications as the Local Government may think necessary, and, when such modifications have been made, the budget shall be re-submitted for approval to the Local Government.

CHAPTER VI.

AUDIT.

40. Accounts of receipts and expenditure of every Board shall be kept in the prescribed manner and form up to the prescribed day in each year.

41. The accounts of every Board shall be audited and examined at least once in every year by such auditor as may be appointed by the Local Government.

42. A copy of the accounts of every Board, duly made up and balanced, shall be deposited in the office of the Board and be open at the prescribed hours to the inspection of all interested persons for fourteen clear days before the audit; and all such persons may take copies or extracts from the same without fee.

43. (1) Before each audit the Board shall, after being informed by the auditor of the proposed date of audit, give at least fourteen days' notice of the time and place at which the audit will be made and of the deposit of its accounts as provided by section 42.

(2) Such notice shall be given by posting outside the office of the Board and in such other way as may be prescribed.

44. (1) For the purpose of any audit, the auditor may by order in writing require the production before him of all books, deeds, contracts, accounts, vouchers, receipts and other documents and papers which he may deem necessary and may require any person accountable for or having the custody or control of the same to appear before him at such audit and to make and sign a declaration as to their correctness or to answer any question or prepare and submit any statement relative thereto.

(2) It shall be the duty of the Board to comply with any requisition made by the auditor and to give all reasonable facilities to the auditor to inspect and audit the accounts of the Board.

45. Any person interested in the District Primary Education Fund may make an objection in writing to the accounts before the auditor.

46. (1) The auditor shall disallow any item of expenditure which is contrary to law and shall give a written certificate that the sum so disallowed is due from the person making or authorising the illegal payment.

(2) If any person entrusted with the duty of accounting for the Board fails to bring any sum into account which ought to have been brought into account and by such default any deficiency or loss is caused to the Board, the auditor shall give a written certificate that the amount of such deficiency or loss is due from the person so defaulting.

47. (1) (a) Any person who has made an objection under section 45, if such objection has been overruled by the auditor, and

(b) Any person from whom any sum has been certified by the auditor to be due under section 46,

may appeal to the Commissioner of the Division against the decision of the auditor within thirty days, and the Commissioner may in appeal give any decision which might have been given by the auditor, and such decision shall be final.

(2) The Commissioner may, in his discretion, order that sums certified to be due under section 46 or sub-section (1) of this section shall not be realised under section 48, and such order shall be final.

48. (1) Every sum certified to be due from any person by an auditor under section 46 or by the Commissioner of the Division under section 47 shall be paid by such person to the District Primary Education Fund within fourteen days after the making of the certificate unless, in the case of a certificate by an auditor, an appeal under section 47 is pending.

(2) If payment is not made in accordance with the provisions of sub-section (1)—

(a) in the case of default by a Government servant or member of the establishment of the Board the sum payable shall be recovered, subject to the prescribed conditions, by deduction from his salary bill, and

- (b) in the case of default by any other person the auditor shall forward to the Collector a certificate under his signature specifying the sum payable, and the Collector, on receipt of such certificate, shall proceed to recover the sum as if it were a public demand under the Public Demands Recovery Act, 1913.

49. Within fourteen days after the completion of the audit, the auditor shall report on the accounts audited and examined and shall forward such report to the Local Government through the Director of Public Instruction and shall forward a copy of such report to the President of the Board concerned, who shall lay it before the Board.

CHAPTER VII.

POWERS AND DUTIES OF UNION BOARDS, UNION COMMITTEES AND PANCHAYATS.

50. Subject to the prescribed conditions, the Board may and shall, if so required by an order of the Local Government, delegate all or any of its powers of construction, repair, supervision and management of primary schools to Union Boards in areas in which the Bengal Village Self-Government Act, 1919, is in force, and elsewhere to Union Committees or Panchayats, and thereupon such Union Boards, Union Committees or Panchayats, shall, subject to its control, exercise such powers within the area under their authority.

51. For the purposes of this Act every Union Committee constituted under the Bengal Local Self-Government Act of 1885, and every Panchayat appointed under the Village Chāukidari Act, 1870, shall be a body corporate by the name of "the Union Committee of (name of Union)" or, "the Panchayat of (name of village)," as the case may be, and shall have perpetual succession and a common seal, and shall by the said name sue and be sued, with power to acquire and hold property, both movable and immovable, and subject to the prescribed conditions, to transfer any property held by it and to contract and to do all other things necessary for the purposes of this Act.

52. Notwithstanding anything contained in section 18 of the Bengal Village Self-Government Act, 1919, the power of every Union Board to transfer property or to contract shall, for the purposes of this Act, be subject to the prescribed conditions.

CHAPTER VIII.

RECOGNITION OF AND GRANTS TO PRIMARY SCHOOLS.

53. (1) If the managing authority of any school desires that such school shall be recognised as a primary school under this Act, it shall submit an application in the prescribed form to the Board.

(2) The Board may, subject to the prescribed conditions, by an order in writing, grant such application, conditionally or unconditionally, or refuse or defer the grant of recognition and may also similarly withdraw recognition so granted.

(3) An appeal shall lie in respect of any order passed under sub-section (2) to the Director of Public Instruction or to any officer subordinate to him, being above the rank of District Inspector of Schools, to whom he may delegate his powers in this behalf in writing.

(4) The Board may subject to the prescribed conditions, recognise any school in the district as a primary school although no application for recognition has been made by the managing authority of such school under sub-section (1).

54. (1) If the managing authority of any primary school under private management desires that such school shall be granted aid, it shall submit an application in the prescribed form to the Board.

(2) The Board may, subject to the prescribed conditions, by an order in writing, grant such application, conditionally or unconditionally, or refuse or defer the grant of aid.

(3) An appeal shall lie in respect of any order passed under sub-section (2) to the Director of Public Instruction or to any officer subordinate to him, being above the rank of District Inspector of Schools, to whom he may delegate his powers in this behalf in writing.

CHAPTER IX.

COMPULSORY EDUCATION.

55. If the Local Government, after consulting the Board concerned, is satisfied that there is adequate provision for primary education in any area for which a Union Board, Union Committee or Panchayat, has been constituted, it may, by notification, declare that primary education shall be compulsory within such area.

56. No fee shall be charged by any primary school under public management in any area in which primary education has been declared compulsory under section 55.

57. At the instance of the Board, the Local Government may, by notification, exempt from the operation of section 58, section 61 and section 62 any person or class of persons in any area in which primary education has been declared compulsory under section 55.

58. In any area in which primary education has been declared compulsory under section 55, the guardian of every child resident in such area shall, subject to the exceptions specified in section 59, cause such child to attend a primary school.

59. Attendance at a primary school shall not be compulsory on a child if—

- (1) there is no primary school within two miles or such less distance as may be specified by general or special order of the Board in this behalf from the residence of the child ;
- (2) the child is under eight years of age and there is no primary school within one mile from the residence of the child ;
- (3) the child is prevented from attending the school by sickness, infirmity or other cause declared by a resolution of the Union Board, Union Committee or Panchayat concerned to be a reasonable excuse for non-attendance ;
- (4) the child is receiving instruction in some other manner approved by the prescribed officer ;
- (5) the child has already received instruction in a primary school or otherwise to the satisfaction of the Board ; or
- (6) the Board has declared that, owing to agricultural operations, children residing in the area under the authority of any Union Board, Union Committee or Panchayat within the jurisdiction of the Board shall be exempt from attendance at a primary school for a period to be specified in the declaration.

60. The Union Board, Union Committee or Panchayat concerned shall be responsible for the enforcement of the provisions of section 58, section 61 and section 62 and, subject to the prescribed conditions, shall appoint one or more Attendance Committees for this purpose.

61. (1) If an Attendance Committee is satisfied that a guardian has, without reasonable excuse and after receiving a written caution from the Attendance Committee, failed to comply with the provisions of section 58, it shall send a written complaint against the guardian to a Magistrate having jurisdiction.

(2) The Magistrate, if satisfied that the complaint is well-founded, shall direct the guardian to cause the child in respect of whom the complaint was preferred to attend a primary school regularly from a date to be specified in such direction.

62. (1) If an Attendance Committee is satisfied that a guardian has without reasonable excuse failed to comply with a direction issued to him under sub-section (2) of section 6, it shall sanction his prosecution, and on conviction by a Magistrate, such guardian shall be liable to a fine which may extend to five rupees.

(2) Any person who has on two or more previous occasions been convicted of an offence under this section shall, on further conviction for such offence, be liable to a fine which may extend to fifty rupees.

CHAPTER X.

RELIGIOUS INSTRUCTION.

63. Subject to the prescribed conditions, provision shall, so far as possible, be made in every primary school for the religious instruction at least once in every week during school hours of every child attending the school in the religion of the guardian of such child ;

Provided that, at the request in writing of the guardian of any child, such child shall be exempted from such religious instruction.

CHAPTER XI.

INDEMNITY.

64. No suit, prosecution or legal proceeding whatever shall lie against any person in respect of anything which is in good faith, done or intended to be done under this Act.

CHAPTER XII.

RULES.

65. (1) The Local Government may, after previous publication, make rules for carrying out the purposes of this Act.

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely :—

- (a) the educational authority referred to in clause (1) of section 2 ;
- (b) the age-limit referred to in clause (3) of section 2 ;
- (c) the subjects and standards referred to in clause (14) of section 2, and the circumstances in which such subjects may vary in different schools ;
- (d) the resignation of members, the circumstances in which and the authority by which any member of the Committee may be removed ;
- (e) the filling of any vacancy in the Committee whether temporary or otherwise ;
- (f) the regulation of travelling allowances of members of the Committee and of their remuneration, if any ;
- (g) the appointment of the staff of officers and servants of the Committee and the Board and the pay and allowances of such staff ;
- (h) the appointment of a President of the Committee and the method of conducting the business of the Committee ;
- (i) the manner of election of members of the Committee under section 4 and the manner of election of members of the Board under clauses (f), (g) and (i) of section 6 ;

- (j) the manner of election of the President of the Board under sub-section (1) of section 8 ;
- (k) the amount and manner of payment of travelling allowances under section 13 ;
- (l) the conditions subject to which the Board under section 14, the Union Committee and the Panchayat under section 51 and the Union Board under section 52 may transfer property held by them and may contract ;
- (m) the number of meetings to be held by the Committee and the Board, the number of members who constitute a *quorum* thereat, the keeping of minutes of the proceedings thereof, the submission of copies of such proceedings of the Committee to the Local Government and of the Board to the Commissioner of the Division, and the preparation and custody of registers and records by such Committee or Board ;
- (n) the manner of preparing schemes under clause (c) of sub-section (1) of section 23 ;
- (o) the manner of opening additional primary schools and of the expansion of existing primary schools referred to in clause (d) of sub-section (1) of section 23 ;
- (p) the conditions referred to in clause (g) of sub-section (1) of section 23 ;
- (q) the manner of making grants under clause (i) of sub-section (1) of section 23 ;
- (r) the conditions relating to pensions, gratuities and provident or annuity funds referred to in clause (n) of sub-section (1) of section 23 and in clause *Fifthly* of section 37 ;
- (s) the reports and statements referred to in section 25 ;
- (t) the conditions of appointment, punishment or dismissal of the staff of the Board under section 26 ;
- (u) the percentage of cost of establishments referred to in clause *Secondly* of section 37 ;
- (v) the percentage of cost of audit referred to in clause *Fourthly* of section 37 ;
- (w) the Bank or Government treasury referred to in sub-section (1) of section 38 ;
- (x) the manner of reappropriation referred to in sub-clause (ii) of clause (b) of sub-section (3) of section 38 ;
- (y) the form of budget prepared by the Board under section 39 ;
- (z) the manner and form of accounting and the day up to which accounts shall be kept under section 40 ;
- (z1) the hours for inspection of accounts referred to in section 42 ;
- (z2) the procedure of auditors and all matters incidental and ancillary to the audit of accounts ;
- (z3) the manner of giving notice under sub-section (2) of section 43 ;
- (z4) the conditions of recovery of sums under clause (a) of sub-section (2) of section 48 ;
- (z5) the conditions of the delegation of powers by the Board to Union Boards, Union Committees and Panchayats under section 50 ;
- (z6) the form of application for, and the conditions of grant of, and withdrawal of, recognition under section 53 ;

- (27) the form of application for, and the conditions of grant of, aid under section 54 ;
 (28) the officer referred to in clause (4) of section 59 ;
 (29) the conditions of appointment of an Attendance Committee under section 60; and
 (30) the conditions of provision for religious instruction under section 63.

CHAPTER XIII.

REPEALS AND AMENDMENTS.

66. The enactments specified in the Schedule shall be repealed or amended to the extent and in the manner mentioned in the fourth column thereof.

THE SCHEDULE.

ENACTMENTS REPEALED OR AMENDED.

(See Section 66.)

Year.	No.	Short Title.	Extent of repeal or amendment.
1	2	3	4
1885	III	The Bengal Local Self-Government Act of 1885.	- In section 62 the words "primary and" shall be omitted. - In clause (a) of section 63 after the words "class of schools" the words "except primary schools recognised under section 53 of the Bengal (Rural) Primary Education Act, 1929," shall be inserted. - In clause (a) of section 65 after the words "class of schools" the words "except primary schools recognised under section 53 of the Bengal (Rural) Primary Education Act, 1929," shall be inserted. - Section 112 shall be repealed. - In clause (g) of section 138 the words "primary schools and" shall be omitted, and for the words and figures "sections 112 and 113" the word and figures "section 113" shall be substituted.
1919	IV	The Bengal Primary Education Act, 1919.	The proviso to sub-section (2) of section 1 shall be repealed.

Year.	No.	Short Title.	Extent of repeal or amendment.
1	2	3	4
1919	V	The Bengal Village Self-Government Act, 1919.	- In section 32 the words "primary school or" and "primary schools or" where they occur shall be omitted. - After section 32 the following shall be inserted, namely— "32-A. Subject to the provisions of the Bengal (Rural) Primary Education Establishment and Primary Education management of Act, 1929, and to the primary schools. control of the District School Board constituted under that Act, the Union Board may establish primary schools or assume charge of existing primary schools and shall repair, maintain and manage any primary school under its charge." - In clause (i) of sub-section (2) of section 101 the words "schools and" shall be omitted.

STATEMENT OF OBJECTS AND REASONS.

It is universally admitted that there is urgent necessity for a great improvement in the condition of primary education in Bengal. The present system makes but little impression on the illiteracy of the province. The meagre resources that are now available are inadequately organised; small schools springing up here and there have a fitful existence for a few years; children attend irregularly and usually leave school before any real progress towards literacy has been made. The teachers are so poorly paid that the profession fails to attract persons with the requisite qualifications.

2. To remedy this state of affairs some attempts have already been made. A Primary Education Act, of which the author was Mr. Surendra Nath Ray of Behala, was passed in 1919, but it has had little practical effect, because the provision of funds was left to the option of local bodies. Similarly, the scheme prepared by Mr. Biss under which Government undertakes to pay half the cost—both capital and recurring—of primary education in any town or union has made little headway, because local bodies have proved reluctant to find even half the necessary funds. In the light of this experience it is clear that something much more drastic must be tried. Taxation cannot be left to the option of individual local authorities; it must be compulsory, if progress in this vital work is to be accelerated.

3. The present Bill is based in the first instance on the Madras Elementary Education Act, 1920 (Madras Act VIII of 1920), but differs from that statute in many important features. Its operation is confined to the rural districts of Bengal because systems of taxation and control in rural areas must differ from those in urban areas administered by Municipalities. It is proposed to deal separately with the Primary Education problem in urban areas.

A Rural Primary Education Bill was introduced in the last Legislative Council and was examined in Select Committee. The Select Committee presented a report and proposed a number of amendments to the Bill as introduced. The present Bill follows substantially the recommendations of that Committee.

4. The main objects of the Bill are—

- (1) to provide an authority for each district to control primary education,
- (2) to raise the funds necessary for the gradual establishment of universal primary education, and
- (3) to provide for compulsory attendance at school.

5. The proposal of the Select Committee that there should be a Central Primary Education Committee to advise Government has been accepted. The Bill provides for such a Committee and requires the Local Government to consult this Committee before taking action under certain clauses in the Bill.

6. Chapter III creates in each district a controlling body, *viz.*, the District School Board. The constitution of the Board follows closely the lines recommended by the Select Committee. The District Magistrate will be a member of the Board for the first eight years in order to ensure that the administrative experience of this officer and his subordinates will be available to the Board during the difficult period of the initiation of the scheme.

7. In order to secure for the expansion of primary education the largest possible funds, the recommendation of the Select Committee has been accepted that the whole of the expenditure required on account of the training of teachers shall be met from provincial revenues and not from the resources provided by the new taxation or from the normal grants which are now being made for primary education and which will be continued when the Act comes into force. It is intended also that the whole of the cost of the inspecting staff shall be met from provincial revenues and not from the District Primary Education Funds.

8. Power has been taken to bring the Act into force by gradual stages in the different districts. This is rendered necessary by the fact that certain preliminary work must be done. The first duties of District School Boards will be to survey the existing state of affairs and to determine where schools are to be sited, constructed or enlarged so that the children of each district can be provided in the most economical and efficient manner with adequate educational facilities. Training schools for teachers must be expanded so as to provide an increased supply of trained teachers. It may not be necessary to impose the cess immediately upon the introduction of the Act, because time will be required to prepare schemes and train teachers even before the work of enlarging existing schools and constructing others is undertaken.

9. The greatest difficulty in connection with the advance of primary education in this province has been the want of money. The Bill proposes to provide this by the levy of a Primary Education Cess similar to the Roads and Public Works Cesses. The yield of the cess is estimated at about one crore of rupees per annum the whole of which will be earmarked for primary education. The Bill proposes a cess of five pice in the rupee, of which the cultivator will pay four pice and the landlord one pice. As this cess does not touch those whose income is derived from trade, business or profession, a special section empowers each

District Magistrate to assess a tax upon persons whose incomes are derived from sources other than the cultivation of land.

10. Chapter VI makes provision for an annual audit of the accounts of the District School Boards, and gives the auditor powers of disallowance and surcharge. The provisions of this Chapter are based upon the English Public Health Act of 1875, and embody the recommendations made by the Select Committee.

Compulsory education is dealt with in Chapter IX which provides for the compulsory attendance at a primary school of the children except those that are exempted for well-defined reasons. In response to a widely expressed public demand, provision has been made in Chapter X for the possibility of religious instruction during school hours.

The other features of the Bill are explained in the Notes on Clauses.

CALCUTTA,
The 8th July, 1929. }

M. C. MCALPIN,
Member-in-charge.

NOTES ON CLAUSES.

Clause 1 extends the Bill to the whole of Bengal outside municipal areas and gives power to the Local Government to bring it into force in whole or in part in such districts or parts of districts and on such dates as the Local Government may direct.

Clause 2 consists of necessary definitions of which the most important is that of "child" which includes both boys and girls.

Clause 3 provides for the appointment of the Central Primary Education Committee to advise the Local Government.

Clause 4.—The constitution specified in this clause provides for a non-official majority.

Clause 5.—By this clause the Local Government is required to consult the Central Primary Education Committee on various matters.

Clause 6.—By the constitution specified in this clause the non-official element will be in clear majority in the Board.

In order to correct possible under-representation of particular communities power is given to the Local Government to nominate for each district a number of members corresponding to the number of sub-divisions in the district but in no case less than two. Provision is also made for the representation of teachers of primary schools.

Clause 7 gives the usual power to the Local Government to appoint members of the Board in default of election.

Clause 8 provides for an appointed President in the first instance and thereafter for one elected by the members of the Board.

Clause 10.—The first sub-clause prescribes how a member may resign and when the resignation shall take effect. The second states the term of office and the third provides for the continuance of the old members in office till the new ones have been actually appointed or elected.

Clause 11.—*Sub-clause (1)* gives the Government the usual power to remove members from the Board in certain circumstances while *sub-clause (2)* gives power to the Govern-

ment to fix a period during which a person so removed shall not be eligible for re-appointment or re-election.

Clause 12 contains the usual provisions for providing for vacancies in the Board that may arise.

Clause 13 provides for the payment of travelling allowances to certain members of the Board and its establishment. As the majority of the members will come from villages in the interior it is essential that they should be given every facility for attending.

Clause 14.—The incorporation of a Board is necessary in order to carry out the purposes of the proposed Act.

Clause 15 empowers the President or the Vice-President to preside at the meetings, or in their absence, gives the members power to elect one of themselves to preside.

Clause 16 makes the meetings of the Board open to the public. This is intended to attract public interest in these meetings.

Clause 17 contains the usual provision that members shall not vote on matters in which they have a personal or pecuniary interest.

Clause 18 gives power to the President to carry on the executive work of the Board and provides for the delegation of his duties to the Vice-President. Provision has been made in *sub-clause (4)* for the exercise by the Vice-President of all the functions of the President when the latter's office is vacant.

Clause 19 gives power to the Board to make their own regulations for the ordinary conduct of business at meetings. This clause should be read with clause 65 (2) (1). The more important matters are provided in the latter clause and the rules framed thereunder must be made by Government. In the less important matters the Board is left to make its own regulations. *Sub-clause (2)* makes it clear that none of the regulations under this clause can override the rules framed by Government.

Clause 20 gives to the Commissioner of a Division power similar to that which he has with regard to municipalities to prevent any action by the Board in excess of powers conferred by law.

Clause 21 empowers the Government to order the Board to perform its duty in case of default; and if necessary to appoint a person to carry out such duty if the Board neglects to carry out the order of the Government.

Clause 22 gives the Government power, if the Board is not performing its duties under the Act, to bring into being a new Board. *Sub-clause (2)* provides for the interregnum between the supersession of the Board and the filling of the vacancies as a result of fresh nominations or elections.

Clause 23 lays down the duties of the District School Board in the matter of providing for the extension of primary education throughout the district, and in the control thereof either directly or through the agencies of Union Boards and Panchayats. *Sub-clause (1) (n)* makes provision for pensions and a provident fund for the establishment of the Board and teachers in primary schools.

Clauses 24 and 25 are intended to keep the Government in touch with the progress made in each district.

Clause 26 provides for the appointment of the necessary staff and its control by the District School Board.

Clause 27.—This clause is based on section 14 of the Bengal Agricultural and Sanitary Improvement Act, 1920, and extends to the District School Board facilities for the compulsory acquisition of land.

Clause 28.—This clause is intended to vest in the District School Boards all property connected with primary schools now in the hands of District Boards.

Clause 29.—This follows the Bengal Cess Act very closely and the rate of cess prescribed will yield, roughly, one crore of rupees a year.

Clause 30.—This clause is intended to simplify the procedure of the realization of the primary education cess which will be paid automatically along with the road and public works cesses.

Sub-clause (2).—As in the case of the existing cesses the zamindars will pay the entire amount of the cess less the deduction of one pice for every rupee of the revenue.

Sub-clauses (3) and (4) provide for payments by the intermediate tenure-holders and the cultivating raiyat.

The cess has been distributed between various parties on two principles: (i) on the benefit received and (ii) on the ability to pay. Admittedly, practically the whole benefit will be received by the cultivators of Bengal, while, generally speaking, the cess will press less heavily on them than on the tenure-holders or zamindars. The amount of deduction to which the zamindars and tenure-holders are entitled is based on the portion of the total cess paid by them.

Clause 31 prescribes the procedure for the first imposition of the cess.

Clause 32.—This is a general clause bringing the administration of the new cess within the provisions of the existing Cess Act, 1880.

Clause 33.—The provisions of this clause, read with those of clause 38, ensure that the money collected will not be diverted to any purpose other than that of primary education.

Clause 34.—As the Cess Act, 1880, only affects the owners or occupiers of real property, it was necessary to bring in some provision to ensure that those whose incomes were derived from trade, business or profession, should not be exempted. For this purpose a summary procedure is proposed, based on the Chaukidari and Union Board assessment. No appeal is allowed from the assessment of the District Magistrate but the amount of tax is limited under this clause to Rs. 100 per annum. The amount of tax so assessed shall be communicated to the Union Board or Panchayat for realization just as a precept is sent to the parish council in England by one of the superior authorities.

Sub-clause (4) empowers the Union Boards or Panchayats to recover arrears as in the case of the existing rates. *Sub-clause (5)* should stimulate collections as it allows 10 per cent. of the amount realized to be retained by the local bodies, while *sub-clause (6)* provides that the money will be safely lodged with the Primary Education Fund of the district.

Clause 36 enumerates the various sources of income which may be credited to the District Primary Education Fund including the various Government grants, the proceeds of the primary education cess, and the tax imposed under clause 34 and all other sums that may be credited to this Fund under the provisions of this Bill.

Clause 37 states the objects on which the Fund may be spent. By putting in the forefront the payment of interest upon loans raised for the purposes of the Act, the Board should be able to raise loans when necessary at a very low rate of interest.

The next two payments are connected with the collection of the cess.

Clause fourthly provides for the payment of cost of audit by the Board.

Clause fifthly provides for the Board's establishment and the provident fund contributions for all the employees whether clerks or teachers.

Clause sixthly allows for the payment of travelling allowances to the members of the Board and its establishment which will be essential if the local representatives are to take a real part in the working of the Board.

All the above items are for comparatively small sums of money, while the main expenditure will be incurred under *clause seventhly* for the cost of construction, equipment and maintenance of primary schools.

Clause 38.—This clause provides safeguards against the misapplication of the money by ensuring that all sums are promptly credited to the Fund and that payments can be made only on a regular procedure.

Clause 39.—This clause provides for a regular budget being submitted every year so that the Government can see that no Board is misapplying its finances.

Clause 40.—This clause and the succeeding clauses up to 49 follow the provisions of the English Public Health Act of 1875 and have been inserted to ensure that the Primary Education Fund can be diverted from its real object only at considerable personal risk of the person responsible for that diversion—whether he be a Government servant or not.

This clause will enable the accounts of each Board being kept in a uniform manner and in consonance with the general finances of the province.

Clause 41 provides for an annual audit.

Clause 42.—To render the audit effective, it is essential that the accounts should be open to the inspection of the public so that any matters about which there are doubts or suspicions can be brought before the auditor.

Clause 43 contains another provision to ensure the publicity of the audit.

Clause 44.—*Sub-clause (1)* enables the auditor to call for any document that may be necessary, and gives him power to make his inquiries into the questions that may arise during the audit effective. In *sub-clause (2)* the duty of the Board to assist the auditor is specifically laid down.

Clause 45 will enable any person to bring an objection about the accounts before the auditor.

Clause 46.—Under this clause the auditor shall not only decide whether any money has been properly spent or not, but, if it has been wrongfully spent, he will go a step further and ascertain who is to blame and for what sum he is liable in connection with this action. Under *sub-clause (2)* the auditor is given similar powers with regard to those who have caused loss to the Board by failing to credit any sums that are due to the Primary Education Fund.

Clause 47.—Against the orders of the auditor one appeal will lie and that to the Commissioner of the Division. As this officer knows the circumstances of the district better than any other, he seems to be a suitable person to decide such appeal. Under *sub-clause (2)* a discretionary power is given to him of condoning offences. In England such power is vested in the Ministry of Health and is very widely exercised in cases where genuine mistakes have arisen and there has been no deliberate dishonesty or gross negligence. Especially on

the introduction of the Act when people are still strange to the new procedure and rules for expenditure, it is necessary that the Commissioner of the Division should have wide powers of making allowances for inexperience, etc

Clause 48.—Under this clause the procedure has been given for the payment of sums certified by the auditor to be due to the District Primary Education Fund, while *sub-clause (2)* provides for a speedy remedy against all persons who make default of payment.

Clause 49 makes certain that no delay will occur in bringing the results of the audit to the notice of both the Government and the District School Board.

Clause 50 gives power to the District School Board to delegate its powers to Union Boards, Union Committees and Panchayats as their agents for carrying on the work in connection with Primary Education within the area under their control. As the Union Boards, Union Committees and Panchayats vary very greatly in quality, it is clear that such discretion must be left with the central authority in each district. By this means also the funds are concentrated and accounts simplified. Such delegation will doubtless be used as far as possible but it is essential, especially at the start of this scheme, to keep control over procedure within the district as simple and concentrated as possible.

Clause 51.—The incorporation of an Union Committee and a Panchayat is necessary under the proposed Act for the purpose of carrying out its functions.

Clause 52 will enable Union Boards to transfer property or contract under certain prescribed conditions.

Clause 53.—This clause enables any school to apply for recognition as a primary school under the Act and empowers schools to appeal to a higher authority if they are dissatisfied with the decisions of the Board.

Sub-clause (4) will enable the Board to recognise at once without waiting for applications all the satisfactory existing primary schools.

Clause 54 makes provision for primary schools, under private arrangement, to obtain grants-in-aid which will enable them to develop their work on their own individual lines.

Clause 55.—Before declaring primary education compulsory within an area, Government must be satisfied that there are schools and teachers sufficient for all the children in the area concerned and must consult the local authority in the area.

Clause 56.—Fees cannot be levied upon children who are compelled by law to attend school and this clause merely enforces that principle.

Clause 57.—Under this clause Government is given the power of exempting persons or classes of persons from the compulsion of sending their children to school. Presumably girls might be exempted at first, while boys would have to attend.

Clause 58.—This lays the duty on the guardian of sending his child to school.

Clause 59 enumerates the cases in which a guardian may be reasonably exempted from taking action under *clause 58*.

Of these exemptions especial notice should be taken of *sub-clause (6)*. As the children are very largely employed during the special periods of agricultural operations and as such periods vary not only from district to district but within the district, it is necessary to empower the Board to grant exemptions so that all, if necessary, may help their families at this important time.

Clause 60.—This clause puts the responsibility of enforcing attendance on the Union Boards, Union Committees or Panchayats concerned.

Clause 61 prescribes the procedure by which the Attendance Committee can bring cases of default on the part of guardians to the notice of the Magistrate. Under *sub-clause (2)* of this clause the Magistrate can direct the attendance of a child at school if he is satisfied that the complaint is well founded.

Clause 62.—This clause takes us a step further when if the action taken both by the Attendance Committee and by the Magistrate has failed to force the guardian to present his child at the school, the Magistrate can convict the guardian and sentence him.

Clause 63.—In this form and safeguarded by the proviso, it is hoped to provide religious instructions in schools for young children without emphasising religious differences.

Clause 64 contains the usual provision about indemnity.

Clause 65 is the usual clause collecting in one place the various provisions relating to the rule-making powers

Clause 66 and the Schedule contain the consequential amendments necessary in other enactments.

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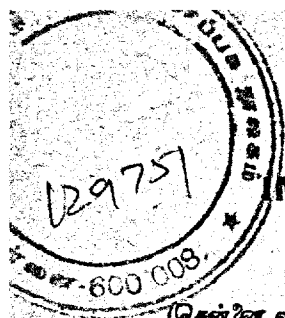
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